

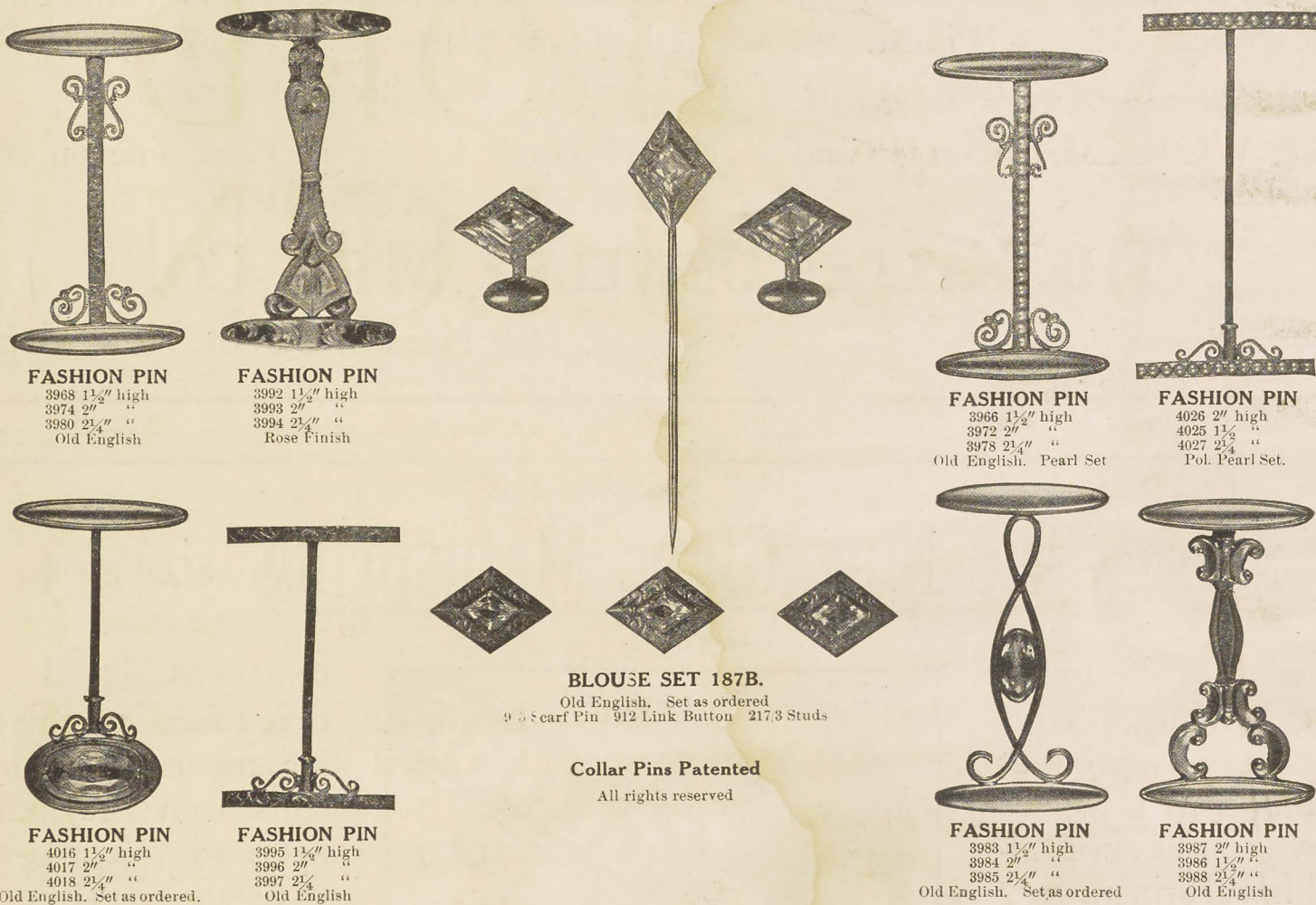


Jewelry Which Gives Distinct Pleasure To Its Wearer



This can be truthfully said of the **F&B** New Fashion Collar Pin and Supporter. The lower pin and support are in one piece, the upper pin being movable, and the entire support is worn on the outside of the collar, thereby adding a dainty touch to the ladies' neckwear and at the same time doing away with uncomfortable inner support. With many unique designs, we are now ready for the spring season's orders.

The practice of keeping to one color scheme in jewelry is becoming an established fashion. Our New Blouse Sets, made up of Studs, Link Buttons and a Scarf Pin, all set with stones of the same shade, make pretty ornaments for the summer gown.



We have, besides, a handsome line of Locketts and Chains, Bracelets and Link Buttons, Veil and Scarf Pins, Hat Pins and Brooch Pins, as well as Neck Chains and Pendants.

Our Sterling Silver Goods afford a choice selection of Toilet and Manicure pieces, Table Ware, Vases and Candle Holders, suitable for June Weddings and Graduating Gifts.

THEODORE W. FOSTER AND BRO. CO.

Manufacturing Jewelers and Silversmiths

100 RICHMOND STREET, PROVIDENCE, R. I.

NEW YORK
13 Maiden Lane

CHICAGO
Heyworth Building

CANADA
Kingston, Ont.

Fall Jewelry Catalogue

THE CATALOGUE AND MAIL-ORDER BUSINESS is rapidly becoming an IMPORTANT factor in the business of the up-to-date retailer.

YOU WILL BE INTERESTED IN OUR NEW FALL CATALOGUE proposition.

Write us for particulars. We furnish same with retail jeweler's name only on cover. All goods illustrated in fine half-tone plates; a credit to any jeweler that sends it out. Largest line of 10 Karat Jewelry shown the trade.

WORKMANSHIP and FINISH equal to any 14 karat line on the market.

THE KELLER JEWELRY M'F'G CO.

Factory, Newark, N. J.

64 Nassau Street, New York

\$12.00 per Gross The New Globe Mainspring \$1.00 per dozen

Owing to the growing demand upon us for a good spring at a moderate price, we have at last succeeded in securing a very highly satisfactory spring which we are going to sell at \$1.00 per dozen. Same is



fully guaranteed in every respect and is far superior to any spring on the market to-day selling at the same price. Send for sample dozen and satisfy yourself of the above facts.

This in no way interferes with our famous JURGENSEN or *CR* Brands, for which we have been exclusive American agents for 56 years, but simply to fill the wants of those requiring a good article for as little money as possible.

L. H. KELLER & CO., 64 Nassau Street, New York

Positively No Goods Sold at RETAIL
Positively No Goods Sold to DEPARTMENT STORES
Positively No Goods Sold to MAIL-ORDER HOUSES

We adhere **STRICTLY** and **WITHOUT DEVIATION** to above rules laid down by us years ago, and we ask the Retail Jeweler to **SERIOUSLY CONSIDER** these facts; for any **JOBBER** who **DOES NOT** follow these rules, **DOES NOT PROTECT THE RETAIL TRADE**, and practically becomes a competitor of the **RETAILER**.

WE ARE NOT YOUR COMPETITOR, WE ARE YOUR PROTECTOR

The Non-Retailing Co., Jobbers in Watches and Chains
LANCASTER, PA.

RIGHT GOODS
 Sold at
 RIGHT PRICES
 in
 RIGHT WAYS

WATCHES
 CHAINS
 CLOCKS
 RINGS
 COMMUNITY SILVER

WORK and WAGES

Think for a minute. In dull times it's the half-trained, half-competent man that is laid off. He is never sure of his job. At the best of times he gets only the wage of the "poor man."

Are you getting all the salary you could handle? Could you hold a better job if you got it?

You can turn present dull times to good account—enroll for the new class in the new school. By spending a few dollars now you'll be sure of your business, sure of your job and sure of the highest salary that's going when things take the turn.

Our new term starts August 17th; write to-day and we will hold a place for you.

CANADIAN HOROLOGICAL INSTITUTE

H. R. PLAYTNER
 Director

S. W. Cor. Church and Wellesley Sts.

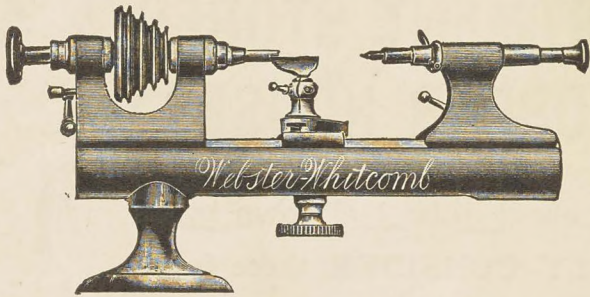
Toronto, Ont.

Circulars on
 Application

Quality and Price

should always be carefully considered before purchasing a **Bench, Lathe or Attachments**. That is the reason we sell only the most reliable tools and appliances. The quality is unquestioned and the price the very lowest that can be made for high-grade tools. If you need a Lathe or an Outfit Complete the combinations listed below will give you full value for your money and will answer all of the requirements of an up-to-date watchmaker. Write us for further particulars.

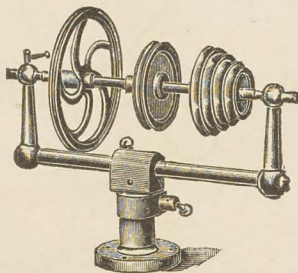
Lathe Combination A \$62.50 Net Cash



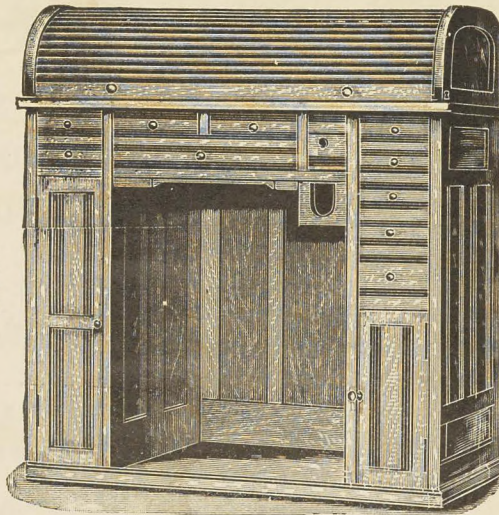
GENUINE WEBSTER-WHITCOMB LATHE

With 10 chuck combination

Perfect construction in every detail, made of the best steel. Has hard spindles running in hardened steel bushings. Absolute concentricity of cone, body, thread and hole. Full nickel plated.

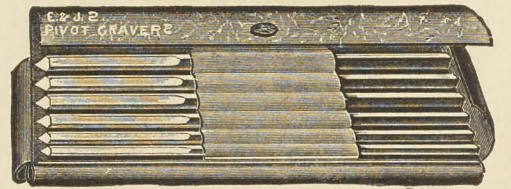


COUNTERSHAFT No. 9
Full nickel-plated



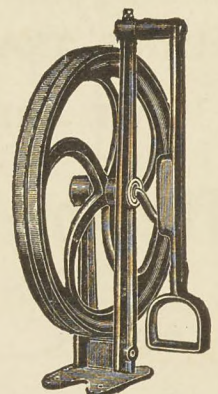
SOLID OAK BENCH No. 1

This bench is made of thoroughly seasoned lumber and finished in best cabinet style. Will not warp or split. Has ten drawers which lock automatically; apron drawer, vise rest and chalk box. Dimensions 43 inches long, 26 inches deep and 40 inches high.



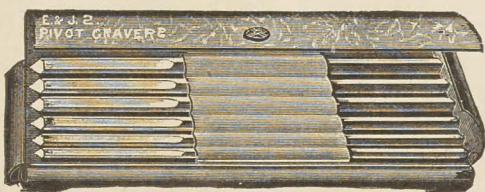
EXTRA QUALITY PIVOT GRAVERS

E. & J. S. pivot gravers are the best that can be made. They are very hard and hold their points much longer than the average graver.



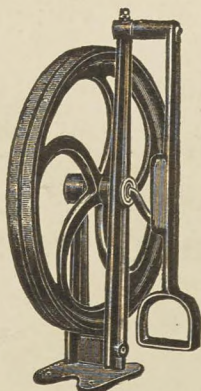
FOOT WHEEL No. 15
Best in the market

Lathe Combination B \$60.70 Net Cash

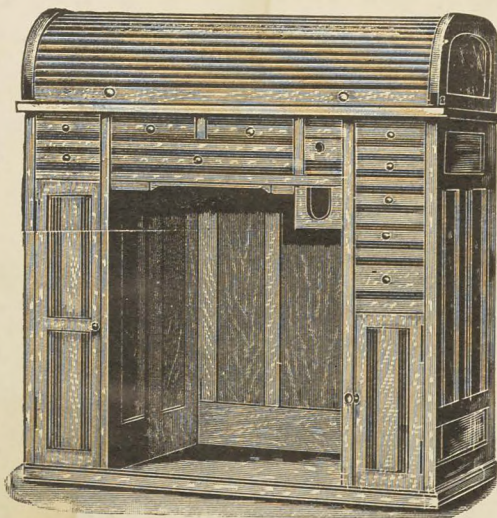


SET E. & J. S. PIVOT GRAVERS

These gravers are made of finest steel and are especially well adapted for fine turning.

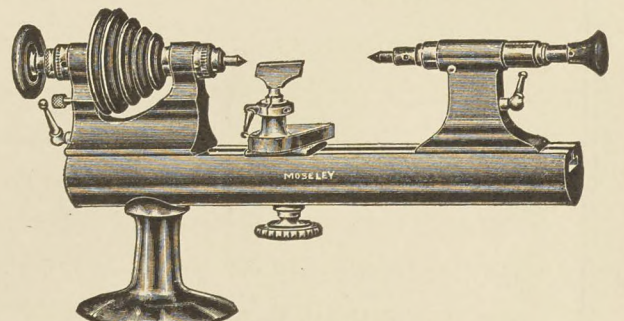


FOOT WHEEL No. 15



SOLID OAK BENCH No. 1

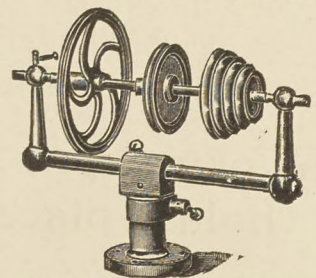
This is a first-class bench in every particular and is warranted not to warp or split. Made of thoroughly seasoned lumber and beautifully finished. Has ten drawers which lock automatically; apron drawer, vise rest and chalk box. Dimensions 43 inches long, 26 inches deep, 40 inches high.



GENUINE MOSELEY LATHE No. 2

With 10 chuck combination

This lathe is made with hardened ground bearings. The cone end of draw-in-spindle and end of back center are of hard rubber. Full nickel plated and absolutely true.



COUNTERSHAFT No. 9
Full nickel plated

If you are not satisfied with the service your material house gives you, why not give us a trial? There is no firm that concerns parts is our specialty and all orders have the best of care. **Our Catalogue** is sent to the legitimate trade free of charge on request accompanied by business card. Send for a copy.

THE E. & J. SWIGART CO., Cincinnati, Ohio

A Reason for it

To Those Jewelers

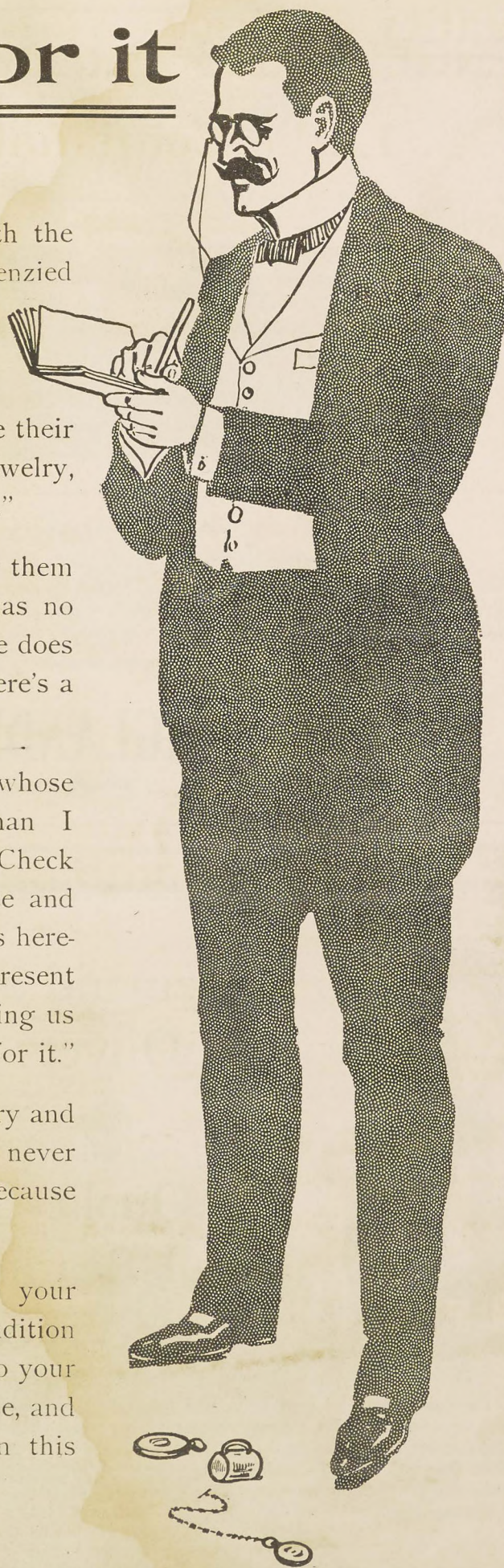
who, like ourselves, have battled with the elements of Panics, Financial Tornadoes and Frenzied Finance for the last thirty years, this article does not refer, but it is intended for those who have recently crept into the Rank and File, and who perhaps don't know that our competitors regulate their prices by what we pay for Old Gold, Silver, Plated Jewelry, Sweeps, etc.—Of course, "There's a **Reason** for it."

We buy the Government Sweeps and we buy them over the Heads of other Bidders. Uncle Sam has no Favorites and he doesn't like us any more than he does our competitors, yet we get his Sweeps, and "There's a **Reason** for it."

Thousands of Jewelers write us yearly, from whose letters we clip such expressions as—"More than I expected," "Wish I had known you before," "Check entirely satisfactory," "Thanks for liberal estimate and promptness," "You can rely on getting my business hereafter." These expressions coming unsolicited represent the condensed views of the Jewelry Trade regarding us and our System and naturally "There's a **Reason** for it."

We have been in business nearly half a century and during this period of Commercial Activity we have never Changed our System nor Changed our Name, because "There was no **Reason** for it."

We Value and Start Check to you the day your shipment arrives. We hold it in its original condition till you approve of our check. If check is not up to your expectations, we return the package at our expense, and as we have never had to return a shipment on this account, "There's certainly a **Reason** for it."

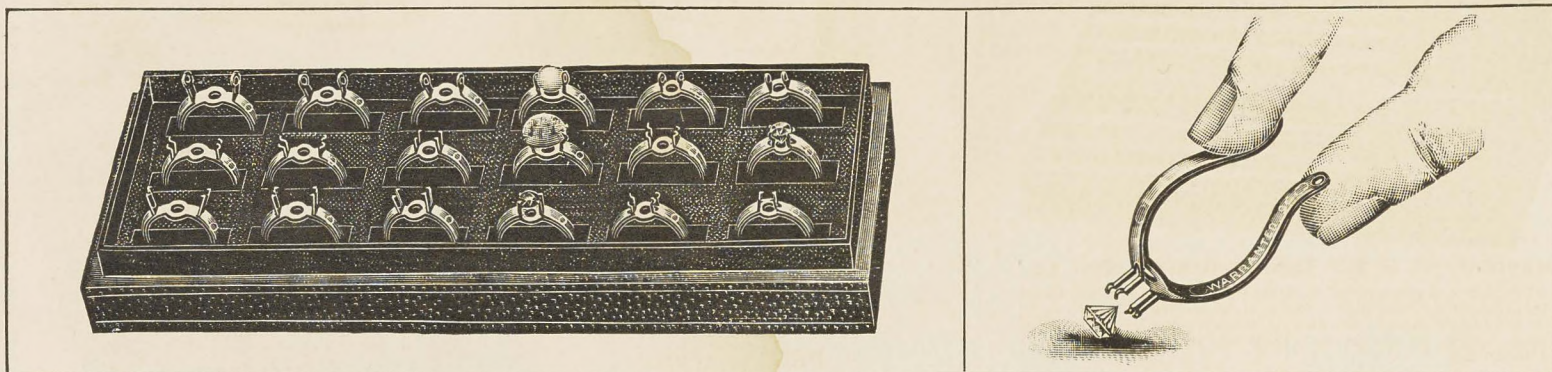


GOLDSMITH BROTHERS SMELTING & REFINING CO.

Heyworth Building, CHICAGO

ENGELMAN'S Patented Combination "Gem" Display Rings and Adjustable Stone Holders

MEET A LONG-FELT WANT



They Are Money-Makers and Money-Savers

UNMOUNTED STONES of any size and shape can be displayed advantageously, as is herein illustrated. Your investment in stock can thereby be **decreased**, as you need not mount them up in expensive settings. Your sales will also **increase** by being able to exhibit unmounted stones. The prices are **low** enough to induce you to buy them and **save** you from incurring frequent losses caused by the awkward handling of the tweezer when your customer desires to examine unmounted stones. Try them. For sale by all jobbers.

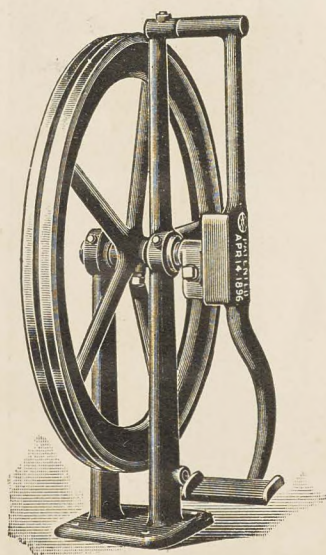
Due to greatly improved automatic machinery and reduced cost of production, we are now quoting these as follows:
Sets of 18 (full set), in box, \$6.00

Sets of 12, in box, \$4.00

Sets of 9, in box, \$3.00

HAMMEL, RIGLANDER & CO., 47 Maiden Lane, NEW YORK

Selling Agents for United States and Canada



Demand an
Oliver



Quality
Ball-Bearing
Foot-Wheel

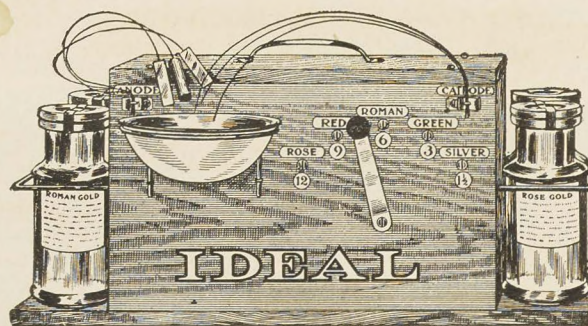
Its many points of superiority will more than overbalance its slight extra cost. It has a heavy, correctly-balanced wheel—a steel shaft, not cast iron—a crank that will not break—driven by two fibre rollers that roll, not slide, reducing the friction to the minimum—a treadle that fits the foot—in short, Oliver Quality throughout.

Catalog D16 sent for the asking.

The W. W. Oliver Manufacturing Co.

1490 Niagara Street, Buffalo, N. Y.

THE IDEAL PLATING MACHINE



PATENTED MAY 19, 1908

The only machine furnishing five different strengths of current; five shades of color for each solution.

SIMPLE, PRACTICAL and INDISPENSABLE, always ready, clean, compact, sure in results, the IDEAL machine for the jeweler.

An electro-plating machine that any one can use. Just the thing to put the new finishes on your old goods. Plates ROMAN, RED, ROSE, GREEN, SILVER, COPPER and NICKEL.

FORMULÆ for making solutions and full directions for plating all above colors come with each machine. These alone are worth the price charged for the outfit.

BATTERIES are ordinary dry cell and give 1½, 3, 6, 9 and 12 volts current (see cut), and should last a year or more with ordinary use and can easily be replaced.

CONSTRUCTION is good; material of Oak, wood work nicely finished. Lever and attachments nickel-plated. Jars for solutions hold 12 ounces and are self-sealing. Plating tank or bowl of best enamel ware. One each pure gold, pure silver and carbon anode. Connecting wires complete, ready for use.

Weight, 30 pounds crated. Size, 18 inches long, 9 inches high and 6½ inches wide. Guaranteed as represented or money refunded. **Price, \$15.00 net cash, F. O. B. Kansas City, Mo.**

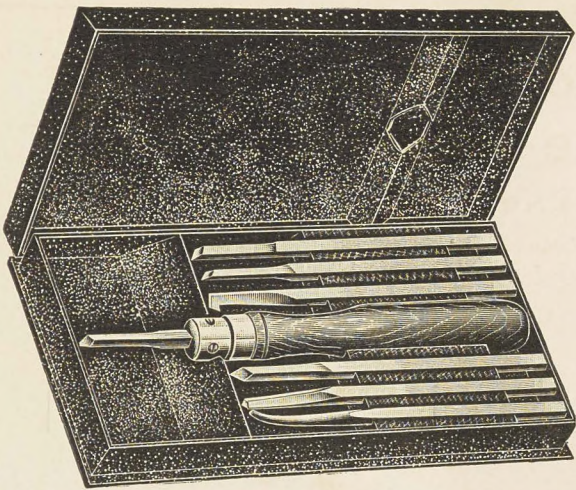
Also complete stock of DIAMONDS, JEWELRY, WATCHES, SILVERWARE, TOOLS, MATERIAL and OPTICAL GOODS, everything needed by the Retail Jeweler

If unable to obtain from your Jobber, order direct from the manufacturers

C. B. Norton Jewelry Company

1013-15 Grand Ave.

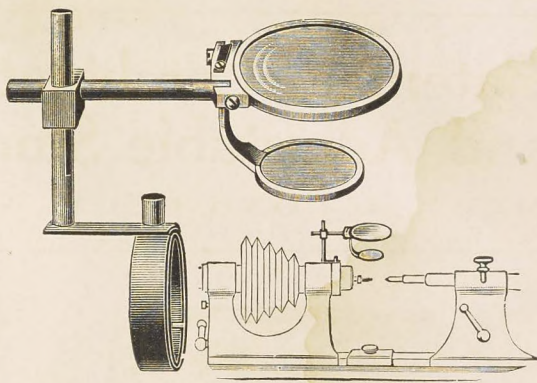
Kansas City, Mo.



Guaranteed "E. F. B." Turning Gravers, No. 33

The finest set of gravers on the market. Handle is of the finest cocobolo, fitted with nickel plated socket in which the gravers can be moved in or out as desired. The two set screws hold the graver rigid and prevent rocking or chattering. They will be appreciated by all users of fine tools.

Price, per set of 7 in case, \$3.00



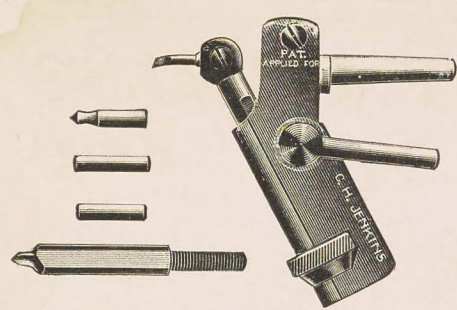
LATHE LOUPE, NO. 25 (Patent Applied For)

A most useful article, devised by a practical watchmaker. Easily applied to any make lathe. If great power is required, bring into action the two lenses; otherwise swing the small lens out of place.

Rings of two different sizes are furnished with each loupe to meet all requirements.

A glance at the illustrations will demonstrate the usefulness of the article, as it will enable anyone to inspect the work without bending close to the work with ordinary eye-loupe.

Price, \$1.25 each



Improved Turning and Jeweling Attachment, No. 33 NEW FEATURES

Adjustment for alignment, fine feed, with direct connected screw. Positive binder operated by slight movement of the thumb or finger. Cutter may be changed quickly. No small projecting parts to be lost or broken. Special cutters can be made from wire.

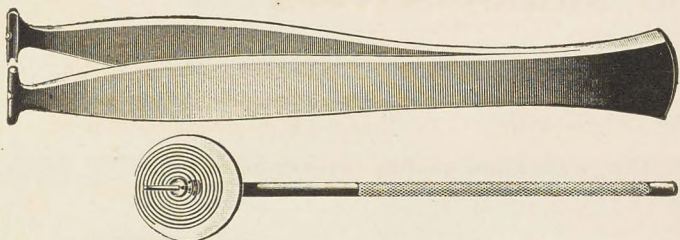
And Other Good Points

One tool may be used on different makes of lathes by simply changing tapers. Can be changed quickly.

ALL STANDARD TAPERS IN STOCK

Each attachment is furnished with two cutters, one burnisher and two blanks. In ordering, please give name and size of lathe.

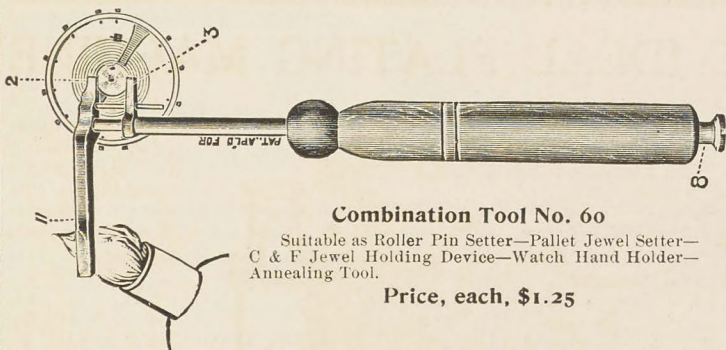
Price, each, \$4.50



HAIRSPRING OUTFIT NO. 200

Devised by a practical "Hairspringer" at one of the largest American watch factories for making Breguet hairsprings and testing hairsprings if properly centered. The jaws of the tweezers are double ended and have very small thin jaws. The white enameled disk forms a good background to show up the curves of the hairspring.

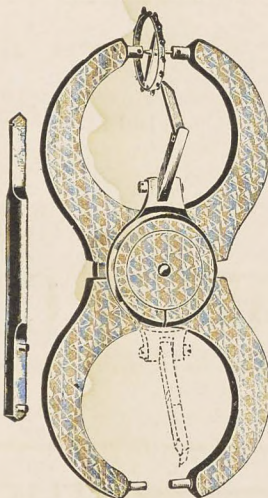
Price, per set in box, \$1.50



Combination Tool No. 60

Suitable as Roller Pin Setter—Pallet Jewel Setter—C & F Jewel Holding Device—Watch Hand Holder—Annealing Tool.

Price, each, \$1.25

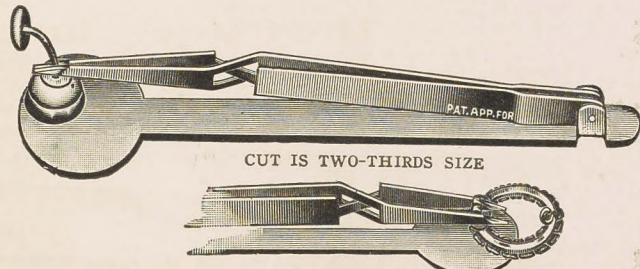


New Patented "E. F. B." Caliper with Revolving and Swinging Index

Does away with the old-style Index Bar and cumbersome shifting of the same from one side of the caliper to the other.

Instantaneous placing of Index in position is possible only on this, the Latest and Best of all calipers.

Price, \$2.25 each



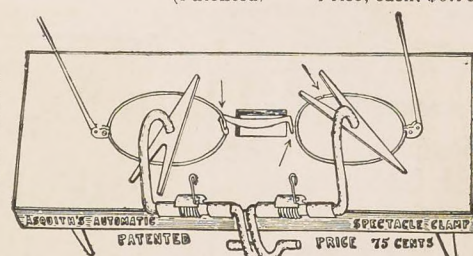
Phesay's Two-in-One Soldering Tweezer

By using Phesay's Two-in-One Soldering Tweezer the joint catch or back is handled only once.

SAVES TROUBLE. Phesay's Two-in-One Soldering Tweezers will solder plumb and true. Will not let article slide when solder flows. Will hold pieces of jewelry with rounded stones or flat surfaces with equal firmness.

Price, each, \$0.75

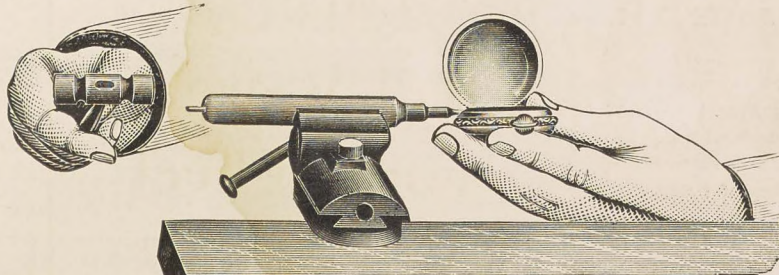
Asquith's Automatic Spectacle Clamp (Patented) Price, each, \$0.75



It's the best yet. Makes the most dreaded job a pleasure. Press the two levers underneath resting the thumb on the asbestos directly above and the spectacle frames are put in or taken out instantly.

Holds rimless bridges perfectly.

It holds a frame for soldering the nose piece, or nose piece to eyewire, or soldering the eyewire by removing but one lens, this prevents getting the lenses in wrong as they frequently are of a different strength. Holds a great many odd jobs in jewelry repairing. Has adjustable spring tension just right for each job. Has two pieces of fine grained asbestos in each clamp making four clean surfaces by turning over. Stands on feet so does not have to be held.

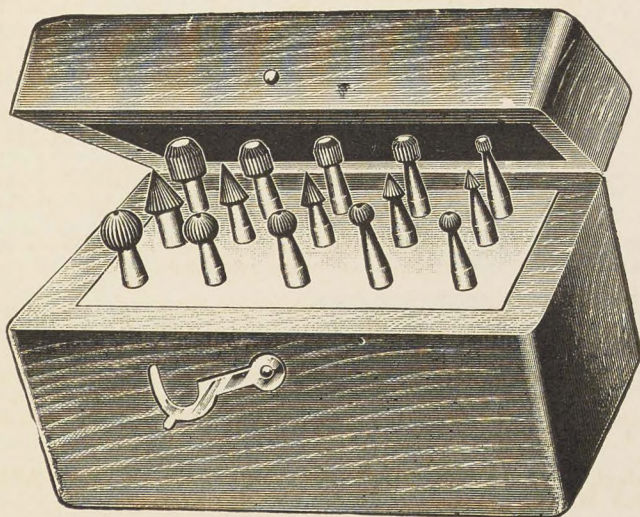


THE NEW NILSON'S PATENT RIVET EXTRACTOR

The most obstinate rivet will yield to this tool. Has two interchangeable points. The handle in vise remains stationary, the center is held in position by a stiff spring and when struck with a hammer permits only a slight advance of rivet. Leaves both hands free to use.

Rivet extractors innumerable have been sold with varying success; this is the latest and appeals to the mechanic as something of merit.

Price, \$1.00



Stone Setting Millers No. 82

Cut is full size

Consists of 15 most desirable and useful cutters. The ball-top cutters have holes drilled to clear the pins in pearl settings.

Price, per set, \$4.50

For Sale by All Jobbers in the United States and Canada

HAMMEL, RIGLANDER & CO.

47 and 49 Maiden Lane, NEW YORK

A Few Specialties

only can be shown on this page. They are typical of the GREAT VARIETY OF DESIRABLE GOODS WE HAVE FOR THE WATCHMAKER AND JEWELER.

MAIN SPRINGS

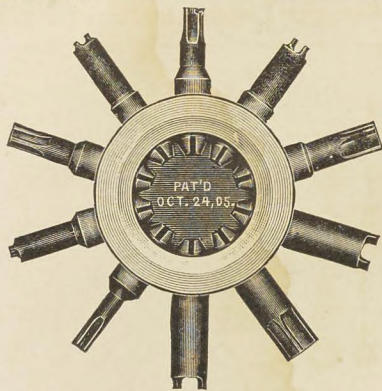


\$ 1.00 per Dozen
10.50 per Gross

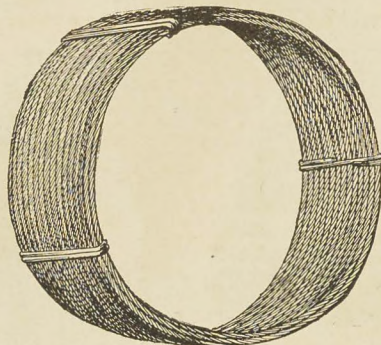
BALANCE STAFFS



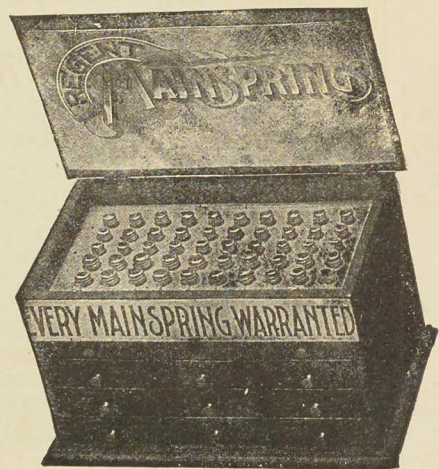
\$.75 per Dozen
7.50 per Gross



Pendant Set Sleeve Wrench—10 Prong
Price, 75 cents



Steel Wire Clock Cord (Non Rust)
Made in 3 sizes. Put up in 11 ft. coils.
Prices Small Size, \$1.50 per doz. Coils
" Medium " 2.50 " " "
" Large " 3.00 " " "



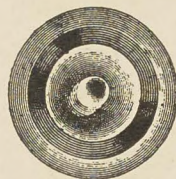
A Regent Mainspring Cabinet
is given FREE with your first order for 1 gross
Regent American Mainsprings

ROLLER JEWELS

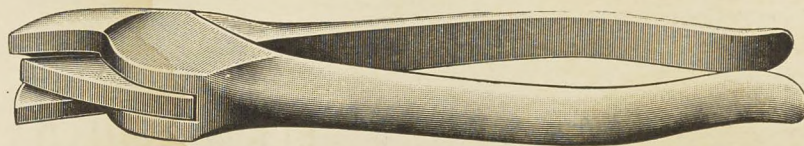


\$.15 per Dozen
1.50 per Gross

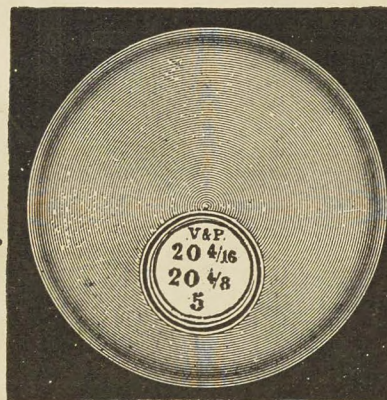
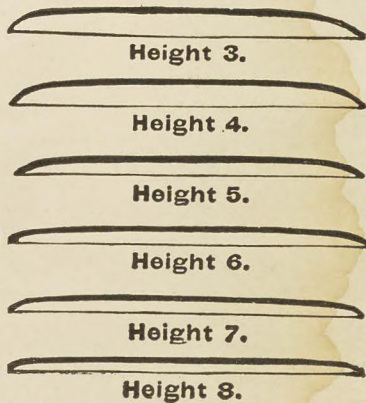
BALANCE JEWELS



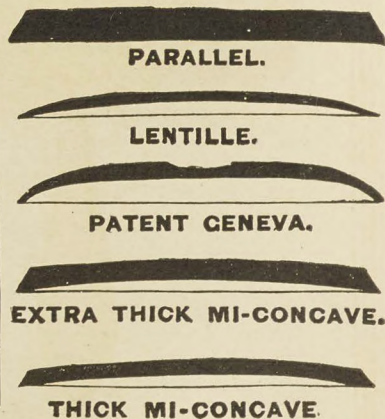
\$.75 per Dozen
7.50 per Gross



Nickel Plated Pendant Bow Pliers. 35 cents



Fac-Simile of Our Label



Send a postal for our
**New Pocket Price-List
of Watch Tools and
Material**
NOW READY

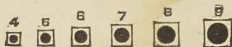
NOTICE—Owing to the advance in the prices of Watch Glasses by European manufacturers, we have revised our prices to date as follows:

PRICE-LIST	Genevas	\$4.00 per gross, \$.40 per doz.	Patent Genevas	\$8.00 per gross, \$.75 per doz.
	Thick Mi-Concaves	4.00 " " .40 " "	Lentilles	12.00 " " 1.25 " "
	Mi-Concaves, Extra Thick	10.00 " " .90 " "	Antiques	8.00 " " .75 " "
	Parallels	8.00 " " .75 " "	Lunettes	3.00 " " .25 " "

BLANK ORDER SHEETS FOR WATCH GLASSES SENT UPON APPLICATION

CLEMENT HOLLOW GRAVER

SEE THAT HOLE

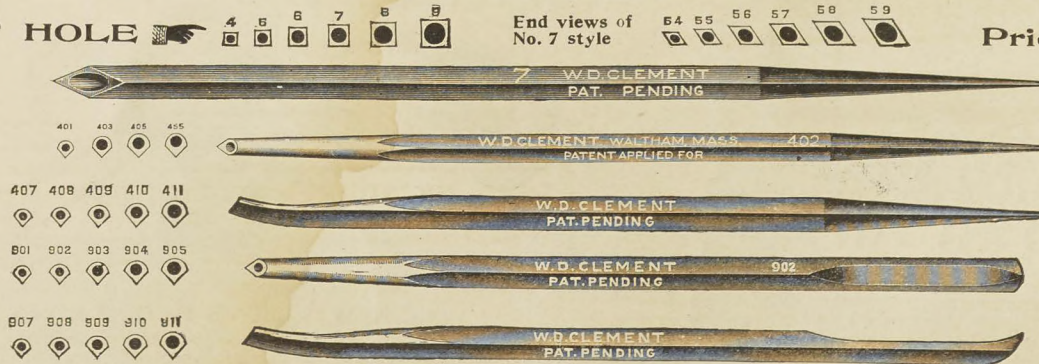


End views of No. 7 style

Price, 25 Cents

Add 50 to number of engraving graver shown and it gives you one with hole near top so it may be turned up from bottom for ring work, hollowware, etc.

For instance, 451 is like 401 except that hole is nearer top.



STYLES WITH HOLES NEAR TOP (NOT SHOWN) Nos. 451-453-455-457-459-461-951-953-955-957-959-961

THE HOLE saves MUCH time in sharpening; keeps the point flat; insures much more even temper.

THE STEEL is made special with the proper per cent. carbon and other ingredients to insure the very best cutting edge that can possibly be produced.

THE TEMPER: these gravers are all hardened by our hard-tough-even tempering process which insures the hardest, toughest and evenest temper that can be produced.

ORDERS FILLED FROM ANY CATALOGUE

Your orders for Watches, Diamonds, Jewelry or Material will receive prompt and guaranteed satisfactory service as to quality and price

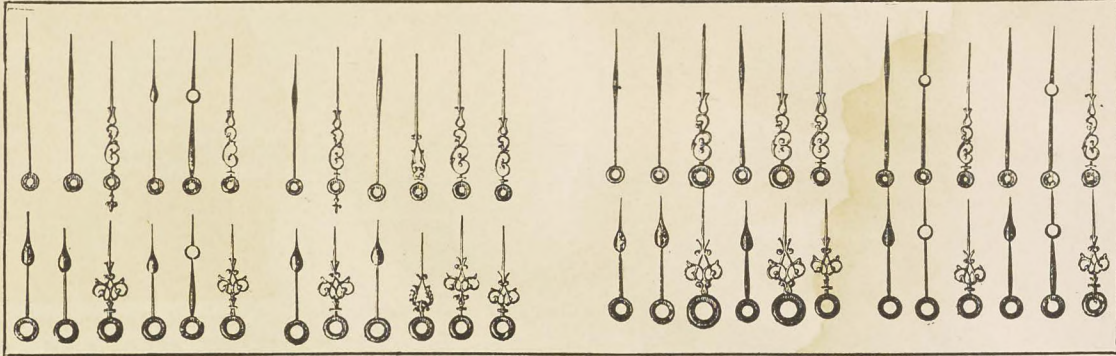
Cross & Beguelin
(A Corporation)

Importers, Exporters and Manufacturers
Watches, Diamonds, Jewelry,
Silver-Plated Ware, Etc.

31 Maiden Lane, New York

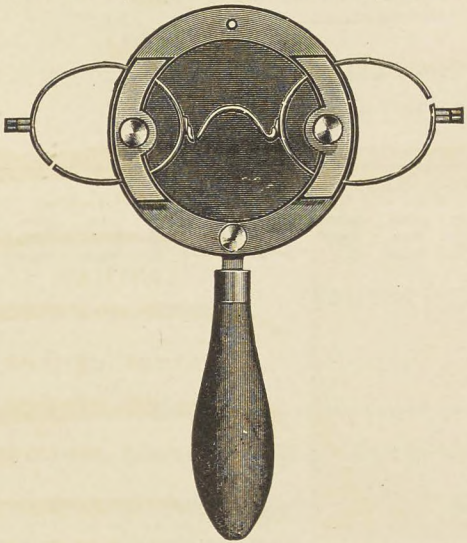
There is Always Something NEW and Swartchild Always has it

LOOK! A Dandy Assortment of Hands for Longines, Omega, Tavannes, Cyma, etc.



We beg to call particular attention, not only to the daily demand for these hands, but also to the fact that they fit exactly. Each pair of hands is numbered in accordance with index on back of card showing the respective Watch each pair will fit.
No. E 196. Double card of Hands, as shown above, assorted steel and composition \$1.00

Allison Spectacle Soldering Block



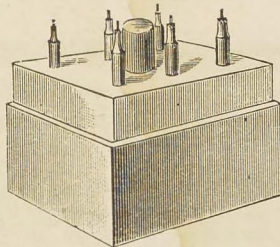
Will hold frames firm and true in any position required.
No. E 205 Each, \$1.00

Insist upon getting

BLACK SHIELD MAINSPRINGS

The Finest Springs on the Market
They will save you TIME, MONEY
and WORRY

New Jewel Screw Countersinks



Made in
three sizes
to polish
0, 6, 12, 16 and
18 size
cases

New Hairspring Comparative Vibrator

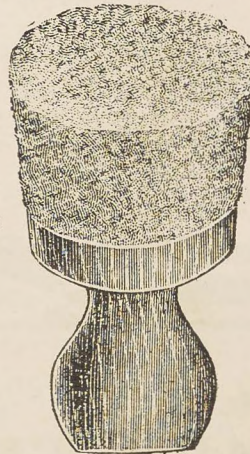


This new instrument is remarkably simple and well-made. The Balance is Mono-metallic, the Hairspring is Non-magnetic, the Jewels are Olive Hole, the regulating is perfect. **Beating 18,000**

When used to vibrate Hairspring place Balance on instrument, and compare Beat.

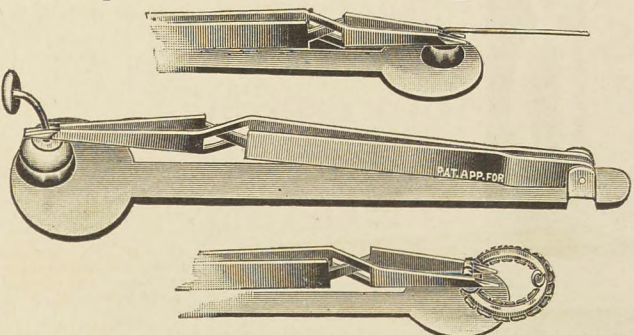
Also used to ascertain if Watch is running correctly. This instrument can be placed on Balance Bridge of movement and will at once indicate whether movement is running slow, fast or on time.
No. E 204 Price, \$2.25

New Woolen Case Buffs



These Buffs produce a high polish, and are of very close texture, giving it lasting quality.

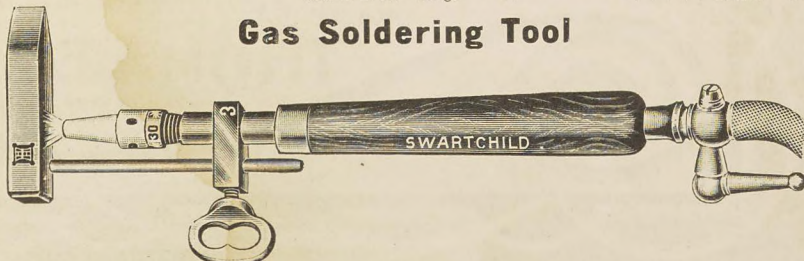
Phesay's Patent Soldering Tweezer



FOR SOFT SOLDERING ALL KINDS OF JOINTS, CATCHES AND BACKS OF JEWELRY

Saves time and trouble. Will not let article slip.
No. E 207 Price, \$.75

Gas Soldering Tool



Length of tool 9 inches. Made with wood handles and Brass trimmings. Fitted with Stop-Cock. The Copper which is continually over the flame is adjustable. Copper is made in two sizes.
No. D 19. Copper length, 1 1/2 inches Price, \$1.75
No. D 20. Copper length, 2 1/4 inches Price, 2.00

SEND US YOUR MATERIAL ORDERS. We carry the largest stock, employ the most efficient watch makers, and WE GIVE PERFECT SERVICE INDEFINITELY.



New Factory Style Economy Watch Brush

No. D 128. Soft Each, \$0.15 Per Dozen, \$1.60
No. D 129. Half Soft Each, 0.15 Per Dozen, 1.60

THIS BRUSH IS USED EXTENSIVELY IN WATCH FACTORIES

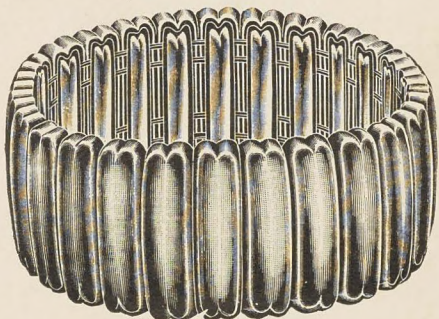
SWARTCHILD & COMPANY - - - CHICAGO
THE LARGEST TOOL AND MATERIAL HOUSE IN THE WORLD

If you have not a copy of our double-sized (13 1/2 x 10 1/4 inches) 440-page catalogue, write for one at once. SENT FREE OF ALL CHARGES. Contains 20,000 illustrations. Most carefully compiled.

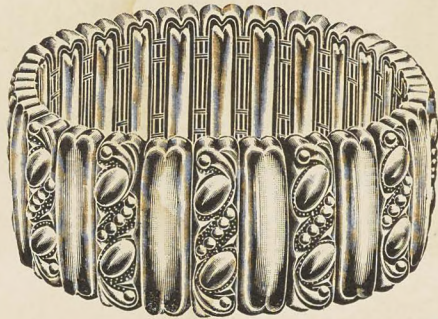
A New Width in Gold Filled Adjustable Bracelets

$\frac{7}{8}$ inch wide—inside circumference, closed, 6 inches—open, 9 inches

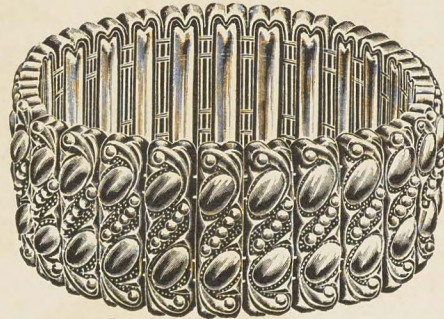
VERY SWELL



No. 757—Polished List, \$6.00 each
No. 758—English " 6.00 "



No. 761—Polished List, \$6.00 each
No. 762—English " 6.00 "



No. 759—Polished List, \$6.00 each
No. 760—English " 6.00 "

OUR 44-PAGE ILLUSTRATED CATALOG OF BRACELETS, FOBS AND FESTOONS—ALSO BRACELET GAGE—SENT ON REQUEST TO JEWELERS

T. B. RESILIENT MAINSPRINGS

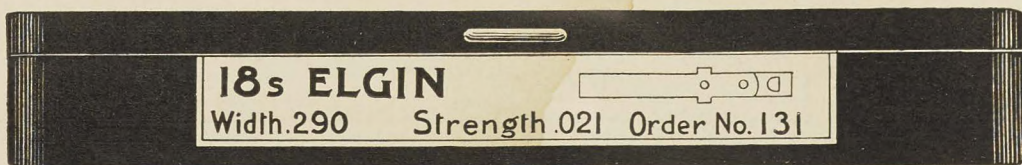
MADE RIGHT—GAGED RIGHT—PUT UP RIGHT



SIZE OF BOX

$5\frac{1}{4}$ inches long
 $2\frac{3}{4}$ " wide
 $\frac{3}{4}$ " deep

WHICH IS SUFFICIENTLY LARGE ENOUGH FOR REPLACING SPRINGS WITHOUT CROWDING.



END VIEW

WHEN PLACED IN CABINET, SHOWING DESCRIPTION OF CONTENTS.

Price, \$1.25 Dozen

\$13.50 Gross

Our MAINSPRING CABINET No. 10, to hold 72 Dozen T. B. Mainsprings—Price, \$5.00 net

THOMA BROS., Established 1868 CINCINNATI, OHIO

THE VITAL POINT



BEWARE
OF
IMITATIONS

FULL NICKEL PLATE

IN COMPARING PRICES WITH
OTHER LATHES, LEARN THE
DIFFERENCE IN SIZE,
QUALITY AND DETAILS
OF CONSTRUCTION

Lathe, including Taper and Screw Chuck,
6 Cement Chucks and Belting . . . \$31.00
Extra Wire and Wheel Chucks75 each

A chuck may look nice and shiny, yet be practically worthless. Examine critically the thread on our chucks in comparison with others. We do not use dies for threading our chucks. THEY ARE CUT IN A LATHE. The cone and body of OUR chucks are GROUND to correct FORM and SIZE; the surfaces are STRAIGHT and TRUE; compare them under your eyeglass with the shiny ones. The thread and outer surfaces of a chuck, as well as its form and proportions, are important elements in its continued truth and durability. The holes in our chucks are GROUND to size and truth. We caution you against the imitations.

The GENUINE are stamped "WHITCOMB."

in a Watchmaker's Lathe is the SPINDLE AND ITS BUSHINGS. In this lathe the bearing surfaces of the spindle and its bushings TOUCH THROUGHOUT THEIR ENTIRE AREA, insuring continued TRUTH, easy running, and greatest *durability*. This quality in our lathes is maintained by workmen of long experience in the operation of special machines devised for this particular work.

Many lathes may be found in the market in which the front end of head-stock spindle bears only on the 45° angle. They may look well on superficial inspection, but they will run hard if the spindle

is closely adjusted, and are quite unreliable for perfect work.

In buying a new lathe be SURE the spindle and bushings are PERFECTLY FITTED. Without this a lathe is dear at any price.

Our lathes are finely finished. The curves are true and the surfaces smooth. All sharp corners are carefully and uniformly rounded; this makes a great difference in the durability of the nickel plate. HEAVILY NICKELED.

In comparing lathes, the size and variety of CHUCKS, as well as the scope and general character of the ATTACHMENTS should be considered.

**FOR SALE BY ALL JOBBERS
IN THE UNITED STATES AND CANADA**

THE TRUE BLUE

BEADED LABEL

The
Crown Watch Glass



Note the  and beware
of imitations



Ask Your Jobber for Them

Sussfeld, Lorsch & Co.

Wholesale Agents

New York, 37 Maiden Lane
Paris, 21 Rue de l'Echiquier

FRENCH WATCH GLASSES

STAKING TOOLS

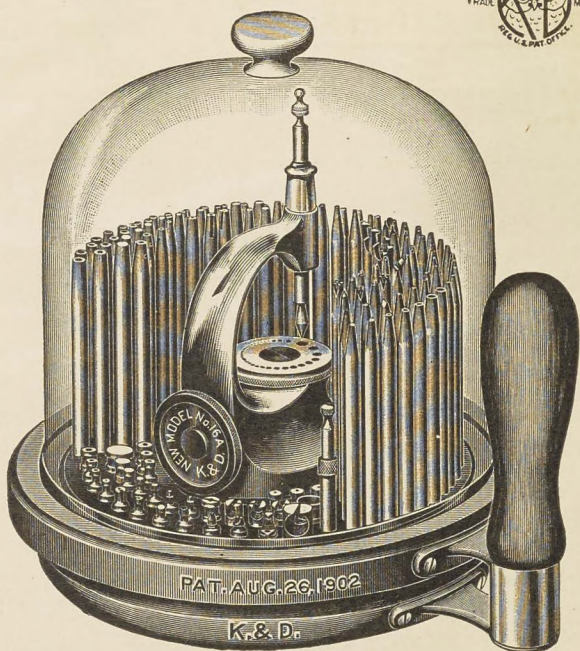
Manufactured by



KENDRICK & DAVIS



LEBANON, NEW HAMPSHIRE



SOMETHING NEW

The New Model No. 16A with Handle

The cut shows a recent improvement in staking tools, which, in point of convenience, ranks with the friction sleeve for holding up the punch. The low ball-bearing base—now so popular—necessitates the use of both hands in moving the tool from place to place on the bench. The new handle entirely removes this difficulty. It is the very acme of convenience, and will henceforth be applied to any of our ball-bearing bases when ordered.

The **patent friction sleeve** for holding up the punch—the greatest single improvement ever made in staking tools—is a feature worthy of careful consideration. It is not only a remarkable convenience, but greatly increases the durability of the tool. The walls of the hole through which the punches pass are of **tempered steel** lapped to a standard. The punches **fit well at first**—they continue to do so.

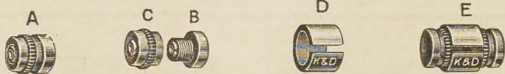
Attention is called to the improved mechanism for binding the die. It consists, briefly, of a cam having **two** bearings in the **solid base** of the tool. This cam operates on an **adjustable hardened surface** in the die bolt; it is **very powerful** and the **pressure is all in the required direction—straight down**—there is **no strain on the overhanging arm**, to throw the punch out of alignment. In point of convenience, too, it is **superior**; the knurled disk of the cam shaft being right in the "handy" place. Ample provision is made to adjust for all possible wear; and when properly adjusted, the die, when bound, **positively will not work loose** under any hammering. This mechanism is **patented** and **cannot be used by others**.

No. 16A with Handle . . . Price, \$26.00

The No. 16A has **120 Punches and 30 Stumps**, including those for removing and replacing Waltham taper shoulder balance staffs.

A POINT TO REMEMBER.—In buying a K. & D. staking tool you get no **experiment**. We offer you only well-tested and approved devices—mechanically correct. Workmanship! Finish, well, just compare it; compare it critically at every point, it's a duty to yourself. All staking tools of our manufacture are stamped K. & D. Be sure you examine the **genuine**.

NEW AND UNIQUE



The K. & D. Poising Caliper Jewels

These jewels supply a real need of watchmakers. They are scientifically designed, and artistically made. The part of the setting containing the hole jewel unscrews, thus separating the jewels, enabling the watchmaker to clean them thoroughly—**Clean and Dry**, is a very necessary condition in Poising Caliper Jewels. These jewels are sent out in a split-tube, which enables the watchmaker to very easily attach them to any caliper, in perfect alignment. Poising calipers instead of parallel jaw tools, are used in some of the greatest watch factories in the world. **With proper jewels**, and an equal degree of skill, equally good results are obtained, and in **much less time**, than with the parallel jaw tool.

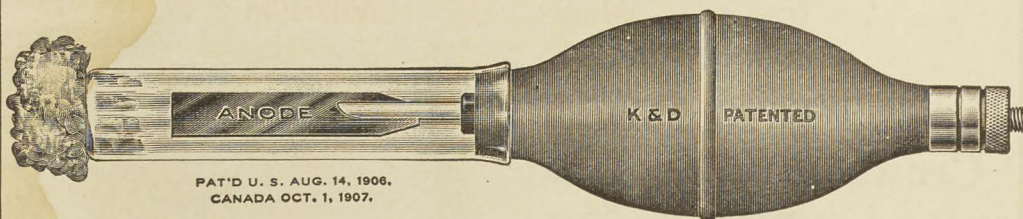
The K. & D. jewels have been thoroughly tested in practice by expert watchmakers, and received the unqualified approval of all.

Jewels of finest sapphire; settings of white nickel silver.

Full directions for attachment, accompany each pair.

Price, \$1.00

The K. & D. Sponge Plater



A new device for the use of jewelers and others, who wish to plate a portion only of an article; such, for example, as the gold lining of spoons, without applying a "resist," applying extra plate to certain parts of articles, etc. This device has been thoroughly tested in practice by practical artisans. It deposits rapidly and homogeneously, fresh solution of standard strength being constantly supplied to the sponge.

A further example of the practical use of this device is depositing gold in engraving on silver or filled articles. In engraving monograms, etc., on filled cases, the gold surface is frequently cut through, exposing the base metal, which soon blackens; to deposit pure gold in the engraving, produces a **rich effect** and entirely obviates tarnishing.

Packed with two extra tubes and sponges. Full directions for use in each box.

Price, without Anodes, \$2.50

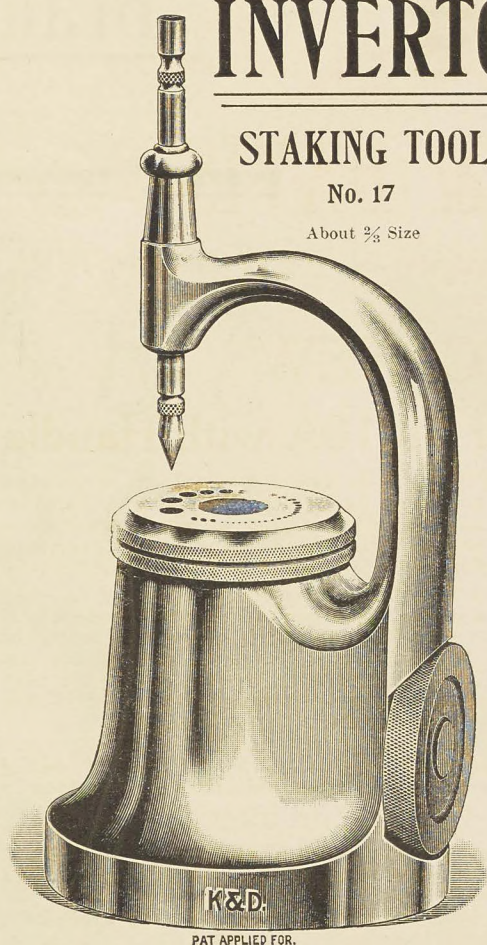
SUSSFELD, LORSCH & CO., Wholesale Agents, 37 Maiden Lane, New York

INVERTO

STAKING TOOL

No. 17

About $\frac{3}{8}$ Size



PAT. APPLIED FOR.

"INVERTO" is put up in a substantial, beautifully finished mahogany case, $7\frac{1}{4}$ inches long, $5\frac{3}{4}$ inches wide and 7 inches high; nickel-plated trimmings. It is supplied with 120 punches of sizes and shapes best adapted to a wide range of work, as indicated by many years' experience in the manufacture of staking tools; this number includes a special punch designed for knocking out broken screws, etc. Punches of this character are frequently broken, the strain to which they are subjected being sometimes very severe. In this new punch, this difficulty is very neatly met by making the part that gets broken as an accessory to the main punch; these sub-punches are instantly changed, without tools. Ten sub-punches, graduated sizes, go with each holder, making practically 130 punches. In addition, there are 12 blank punches (soft) with holes provided in the box for their reception; watchmakers sometimes want a special punch, and these blanks are sure to prove useful. The tool is provided with 22 stumps, of sizes and styles not covered by the punches. Of course, the punches and stumps for driving the Waltham detachable balance staffs are included.

"INVERTO" is sure to mark an epoch in the development of staking tools; every watchmaker should examine it, note the new features, design, workmanship and finish.

"Inverso" Staking Tool No. 17. Price, \$35.00

The "Inverso" is something new in staking tools; it has unique and valuable features never before applied to staking tools, which distinguish it from all others.

Most important. Named "INVERTO" because any of the punches may be **inverted**, inserted in the die and used as a **stump**. This **greatly increases** the range of usefulness; every watchmaker knows how often a stump is needed, which cannot be found even in the most complete sets. "INVERTO" **solves the problem**; the watchmaker now has **practically 160 stumps**.

The mechanical provisions in this tool to admit of using the punches as stumps are remarkably convenient and efficient. The largest hole in the die will just admit a punch; it may be turned to one side—either right or left—the punch inserted, and then brought round and centered for use as a stump. When in this position, only the tapered end of the punch projects above the surface of the die. To avoid any possible difficulty in removing the punch, an ingenious provision in this tool makes it only necessary for the workman to turn the die to the right or left, about one-quarter revolution, and the punch is automatically **raised** high enough to afford a secure grasp for the fingers, when it is readily withdrawn. The punches move through the die with gentle friction, special means being provided to secure this condition. When used as a stump, the end of the punch rests on a solid case-hardened surface in the base of the tool. The centering punch is provided at one end with a female center, for centering the solid punches, when they are to be used as stumps.

Another new feature of this tool is the height of the die, its upper surface being three inches above the bench; this is a most convenient height; when the hand is rested upon the bench, in the position of adjusting work on the die the thumb and forefinger come naturally just about even with the top. But this feature is of greater importance than convenience in handling; it admits of a variety of work impossible to do with an old-style tool, without placing it on a block; for example: The watchmaker often needs to press the minute-hand on a watch when the movement is in the case, the back center being rested on a suitable stump. "INVERTO" affords plenty of space for the open cover to project downward without striking the bench. The die is of steel, three-eighths inch thick; the tool is proportionately massive, weighing approximately three pounds—a quality which will appeal to all practical workmen.

It will be seen that at every point where "INVERTO" **departs** from the regular construction, **improvement has been made**. Well tried and approved features, such as the K. & D. **patent friction punch supporting sleeve**, and **double-bearing cam die binder**, have been embodied in **this tool**.

INVERTO

STAKING TOOL

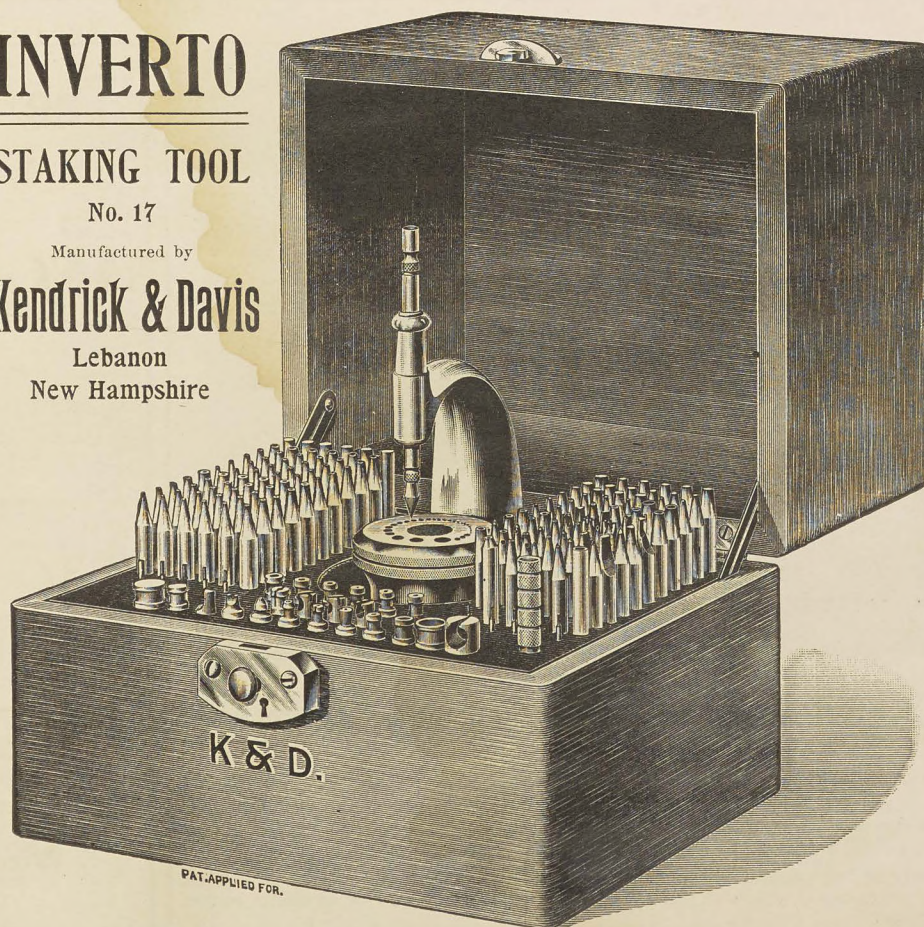
No. 17

Manufactured by

Kendrick & Davis

Lebanon

New Hampshire



PAT. APPLIED FOR.

SUSSFELD, LORSCH & CO., Wholesale Agents, 37 Maiden Lane, NEW YORK

Reliance

Balance Staffs and C. & F.
Jewels are American-made
and guaranteed to fit



Jewelers' Findings are
made of the best grades
only

Brand

K. B. Mainsprings

are guaranteed to be the
most perfectly gaged and
best finished mainsprings
on the market.

Per dozen, \$1.00

With your first order for
one gross of our K. B. Main-
springs we give you gratis a
handsome oak or walnut-20
drawer Mainspring Cabinet.



No. 168. Balance Staffs, Hardened, Tempered and
Polished \$1.00 per doz.

No. 169. Balance Staffs, Hardened and Tempered,
Gray Finish60 " "



No. 170. C. & F. Jewels in Polished Settings, Ruby
and Sapphire \$1.00 per doz.

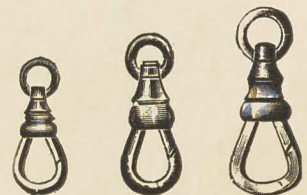
No. 171 C. & F. Jewels in Turned Settings, Garnet . .50 " "

We send gratis a handsome cabinet and 12 bottles with 6 dozen
of our best grade Reliance Brand Balance Staffs and Jewels.

NOTE.—Only the best material and the most up-to-date automatic machinery are
used for making the Reliance Brand Balance Staffs and Jewels. All our Balance Staffs
and Jewels are carefully examined as to their accuracy by experienced watchmakers
before being put on the market. We will be only too pleased to exchange any Balance
Staff or Jewel which you may find defective.

Orders Filled from Any Catalogue

SAMPLES SENT PER REQUEST



No jeweler should be
without our new Catalogue of
Jewelers' Findings. You can
obtain one by sending us your
business card.

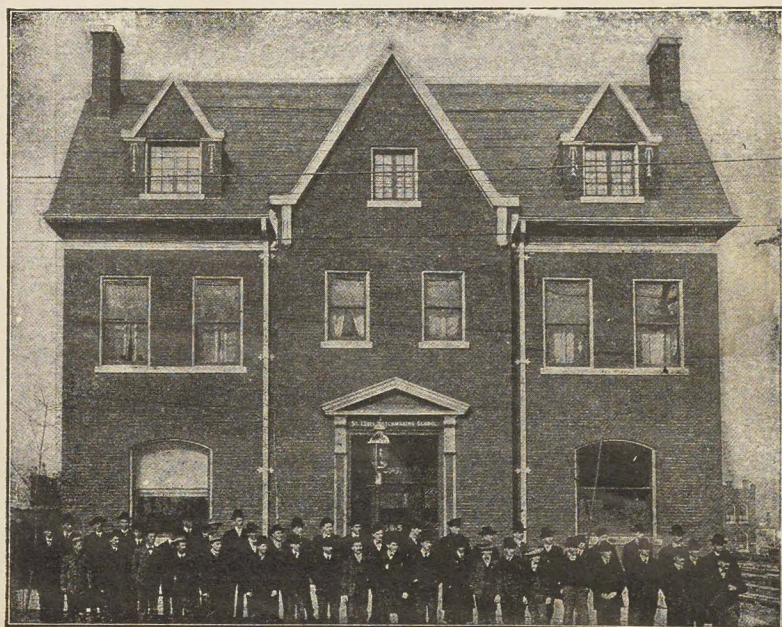
KORONES BROS.
167 Canal Street, New York

Importers
and
Jobbers of

Watches
Clocks
and
Jewelry

Watchmakers'
Tools, Materials
Jewelers'
Supplies

Optical
Goods
and
Silverware



SUCCESS is the best recommendation a school can have

That the **ST. LOUIS WATCHMAKING SCHOOL** is the most successful
school in the United States is attested to by a growing patronage that has now
exceeded our most sanguine expectations, and continuously growing patronage
we deem of all testimonials the most substantial.

Many of our present students are sons of fathers that attended our school
twenty years ago, which certainly is proof that we give our students entire
satisfaction.

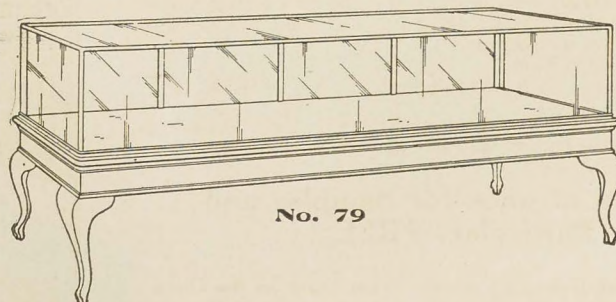
Now is the best time to enter our school, and if you wish to become an
expert in the various branches of the jewelry business write for our new catalog,
which will give you some valuable information.

ST. LOUIS WATCHMAKING SCHOOL, ST. LOUIS, MO.

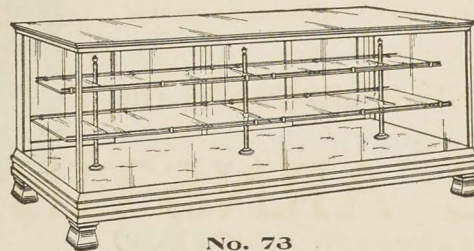
The Best-Paying Proposition

Mr. Jeweler, is to buy the best-made article
for your store, labeled

WADELL—DETROIT



No. 79



No. 73

We
Came
In
This
Business
To
Stay

WADELL SHOW CASE AND CABINET CO.
DETROIT, MICH.

Dept. D

We Can Increase Your Business 50 to 100 per cent.

With a High-Grade Catalog of Your Own

Containing from 36 to 200 pages or over, Illustrating the goods you handle and Arranged to suit your local conditions—at a very reasonable price.



Store of Archie Tegtmeier, Milwaukee, Wis.

The Catalog will show your goods, describe them and quote prices. People now buy much of their jewelry by mail, particularly at Christmas, and the Catalog offers the most practical way of securing their trade.

READ OUR CUSTOMERS' LETTERS

THE ARNSTINE BROTHERS COMPANY,
Cleveland, Ohio.

Gentlemen:—The holiday rush being over, I herewith enclose you a remittance for my account, as there is no bill that we owe that we pay more cheerfully than we do yours.

This has been the fourth year that we have used your catalog with splendid results. It gives me great pleasure to state that in spite of there being 20,000 men out of employment in this territory, that our business compares favorably with the month of December of a year ago and we attribute it largely to the good advertising that your catalog has done for us, both in and out of the holiday season.

Wishing you a happy and prosperous 1908, I am

Yours very truly,

ARCHIE TEGTMEYER.

This Concern Used The Arnstine Bros. Company's Catalogs in 1904, 1905, 1906 and 1907.

WRITE FOR PARTICULARS

Sidney, Ohio, January 17, 1908.
THE ARNSTINE BROS. COMPANY,
Cleveland, Ohio.

Gentlemen:—In reply to your letter of January 4th, while the depression in money matters was sharply felt here, and we had expected a serious loss in our last December sale as compared to the previous year, we are glad to state that the results did not prove it, as our sales for the Holidays were considerably in excess of the same time in 1906, and, while the run seemed to be more on medium-priced goods we made more sales.

We attribute this to the use of your Catalogs, which we assure you were very much in evidence as far as the sales were concerned. We have used your Catalogs four seasons and appreciate their value as trade bringers, and trust to use them for many more seasons to come.

With best wishes, I am,

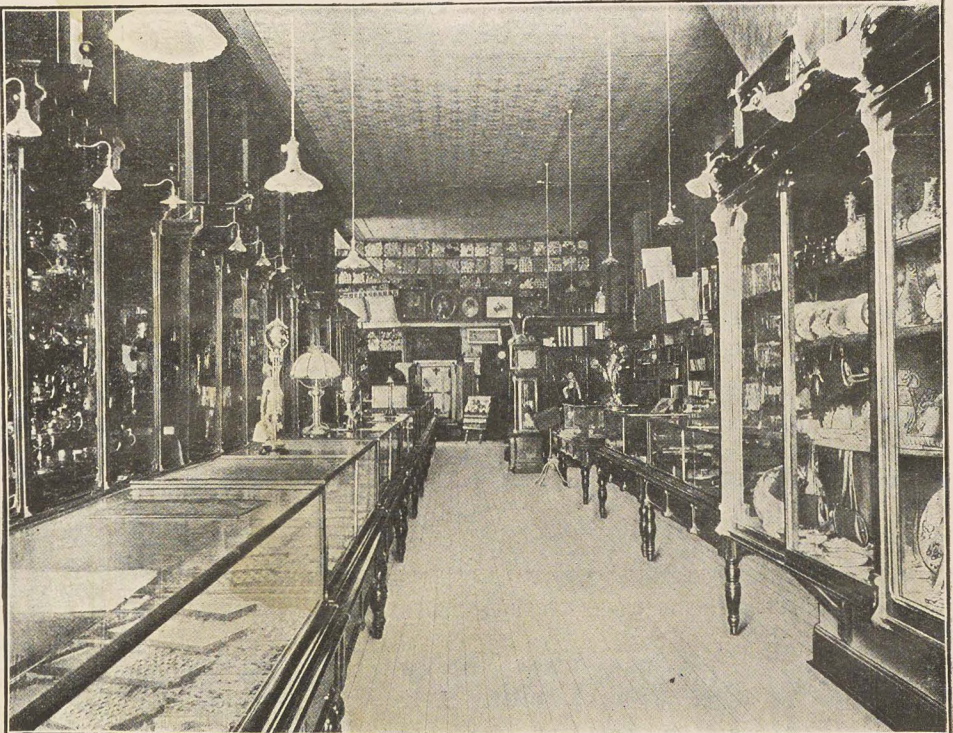
Very truly yours,

E. E. KAH

This Concern Used The Arnstine Bros. Company's Catalogs in 1904, 1905, 1906 and 1907, and has placed order for 1908.

Write us at once for Samples and Particulars FREE

Our representatives visit nearly every State in the Union. If you are interested and will notify us, our representative will take pleasure in calling on you and explaining our method.



Store of E. E. Kah, Sidney, Ohio

WE SELL TO RETAIL JEWELERS ONLY

THE ARNSTINE BROS. COMPANY

Originators of Our Exclusive Catalog Method for the Retail Jeweler

CLEVELAND, OHIO

IN WRITING US, PLEASE MENTION THIS ISSUE OF "THE KEYSTONE"

"CLINCH"**Safety Catch for Scarf Pins**

Does not mar the pin. Nothing to get out of order. Simple and neat. One turn to the right grips like a vise. Fits any size pin.

Prices to the Trade

No. 1. Gold Plated, \$1.50 doz.
No. 2. Roman Gold, \$2.00 doz.
No. 2. 14 K. Gold Plate, burnished, \$2.25 doz.

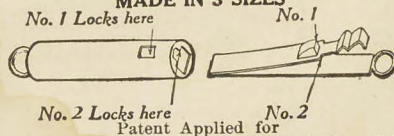
No. 1. 25c.

The "SECURITY" Necklace Clasp

A Clasp at Last That's Secure and Fast
"HEAR IT SNAP." Cannot Pull Out

MADE IN 3 SIZES

Simple and
Absolutely Secure



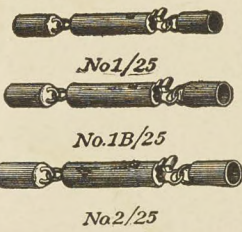
The Only Perfect
Clasp
Locks in Two
Places

**PRICES TO THE TRADE**

	DOZEN		DOZEN
No. 1. 10 K.	\$6.00	No. 1B. 10 K.	\$7.00
No. 2. 10 K.	9.00		
No. 1. 14 K.	7.00	No. 1B. 14 K.	9.00
No. 1. Platinum	18.00		
No. 1. Gold Filled	2.00		
No. 1B. Gold Filled	2.25		
No. 2. Gold Filled	2.50		
No. 1. Sterling Silver	2.00		

Made in Gold Filled Only

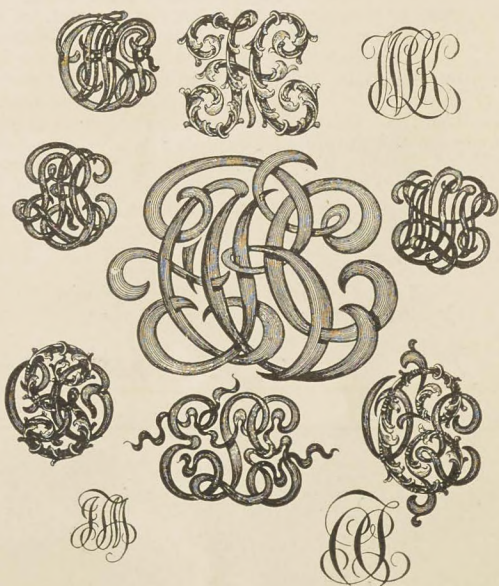
No. 1/25, \$2.75 doz.	No. 1B/25, \$3.25 doz.
No. 2/25, \$3.50 doz.	



Ask your jobber, or write

**THE
HOFFMAN
NOVELTY
CO.**

79-83 North Pearl Street
ALBANY, N. Y.

SAMPLE SHEET OF ONE OF OUR STUDENTS

Now is the time to take advantage of our special short summer course for busy men.

Most rapid progress Limited class Modern methods

CATALOG ON REQUEST

**The W. L. Newmeyer
School of Engraving**

New England Building

CLEVELAND, OHIO

IT POSITIVELY WILL NOT GUM

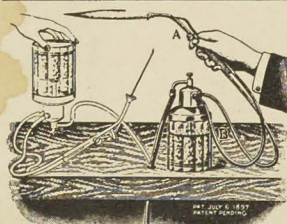
THE R & L OIL is the standard lubricant now used by the most expert workmen, and it is giving complete satisfaction. Made of the finest quality, and so compounded that it will not change, or thicken, it forms an ideal oil. *A better was never made.*

Send 25 cents to your jobber, asking for R & L OIL.

Wholesale Selling Agents
M. Sickles & Sons, Philadelphia
Swartchild & Co., Chicago
Nordman Bros. Co., San Francisco
Daniel Pratt's Son, 53 Franklin St., Boston

Wholesale Selling Agents
D. C. Percival & Co., Boston
Chas. May & Son, Boston
Sussfeld, Lorsch & Co., New York City
H. S. Meiskey Co., Lancaster, Pa.

RANLETT & LOWELL CO., Sole Manufacturers
Jewelers' Building, Boston, Mass.

IT POSITIVELY WILL NOT GUM

SAMS' FLUX is the best for hard soldering

**SAMS' SAFETY
GASOLINE
BLOWPIPE OUTFIT**

Produces either a Heavy brush flame or the Finest needle point.

Metal Specialties Mfg. Co.

(Sole Mfrs.)

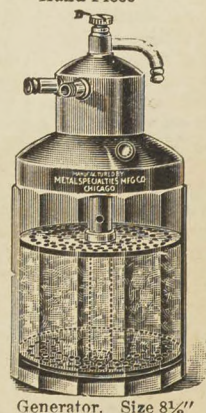
18-24 W. Randolph St. - CHICAGO

Liberal Discount to Jobbers.

Outfit complete	\$12.50
Outfit without bellows	8.50
Generator (B)	6.00
Blowpipe (A)	2.50
Foot Bellows (C)	4.00
Sams' Flux	.25



Hand Piece



Generator. Size 8 1/2" high, 5 1/2" diam.

Here It Is**Just What You've Been Looking For—**

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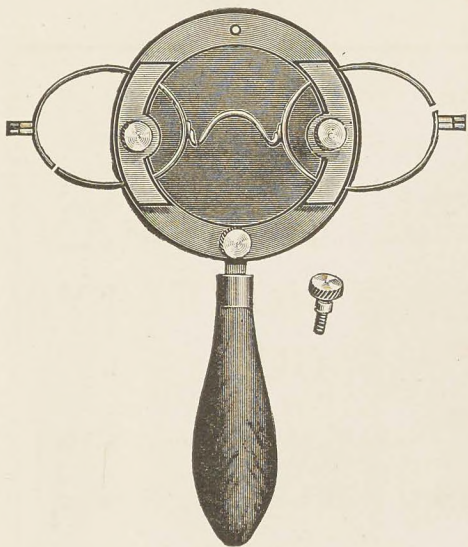
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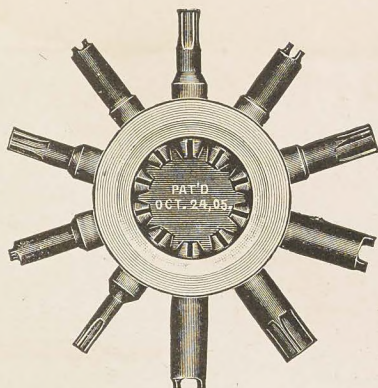
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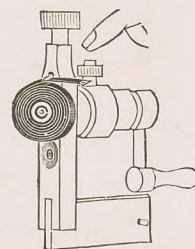
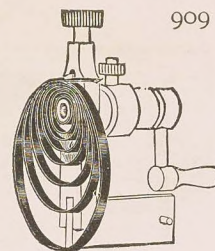
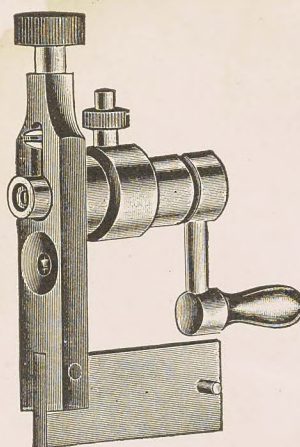
The Newark Watch Case Material Co's. Improved 10-Prong Patent Sleeve Wrench

This is the only practical Sleeve Wrench on the market. Every key is measured accurately, so they will fit all makes of sleeves. Beware of imitations and see that our patent number is stamped on the key you buy. We are sole agents for this wrench. Beware of imitations. None genuine unless bearing date of patent shown in illustration. This is the only accurate and practical tool of its kind on the market.



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These springs can be fitted without filing, to all makes of cases. Made for thick and thin model cases, in both lifting and lock. Beware of base imitations. See that the box bears the name of "Fleming's Patent Corrugated Case Spring." None genuine except those with the name "Fleming" on.



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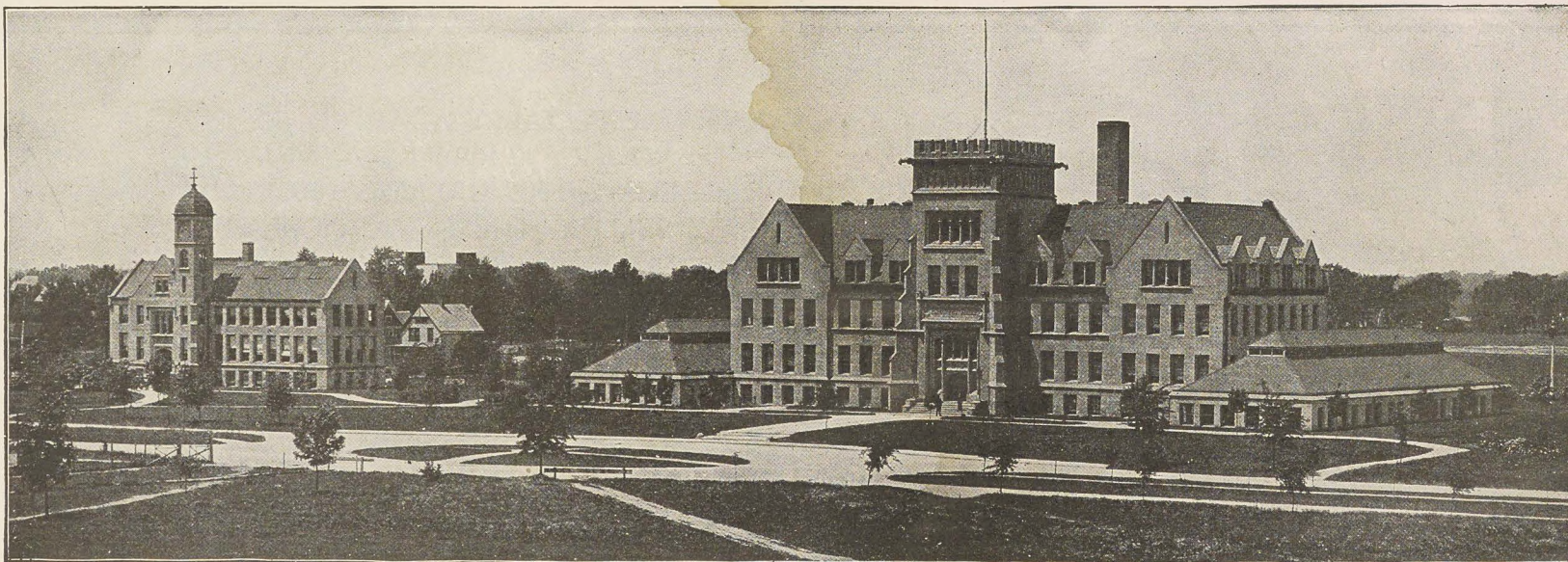
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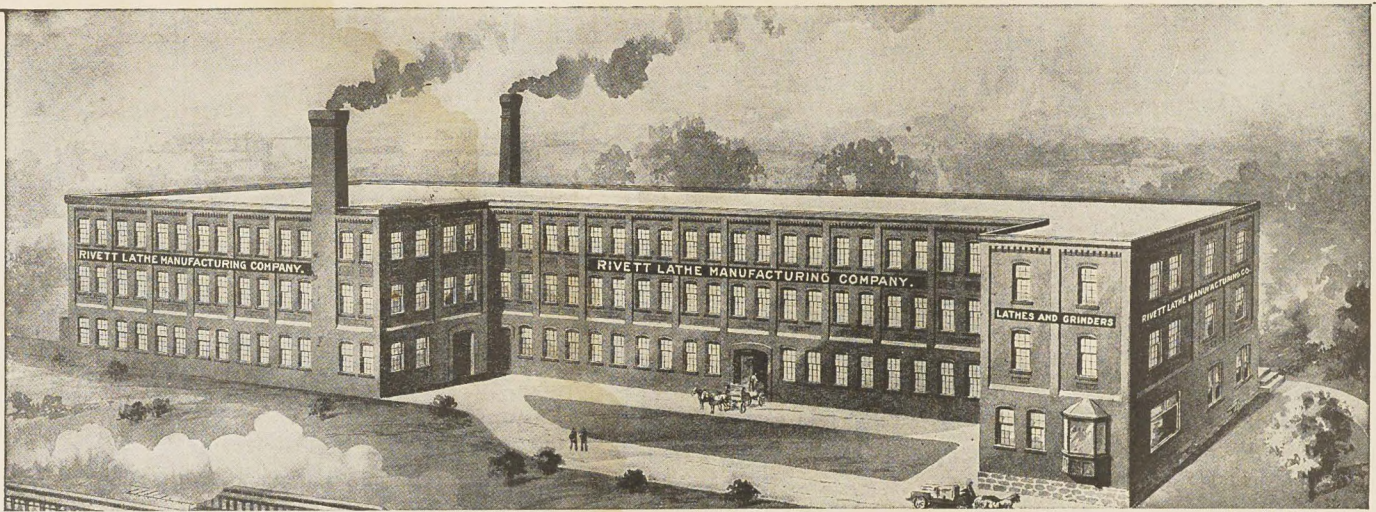
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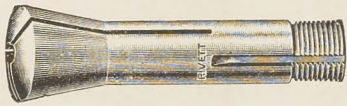
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Full Size
New Model "Ideal" Chuck



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These two cuts show first our newly-designed "*IDEAL*" CHUCK and below it a chuck as they used to be made years ago. In the latter the thread is much smaller than the body of the chuck, which limited the capacity.

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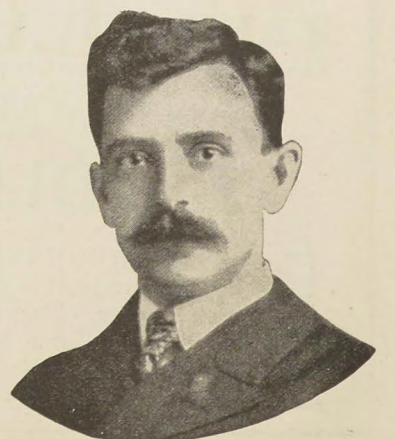
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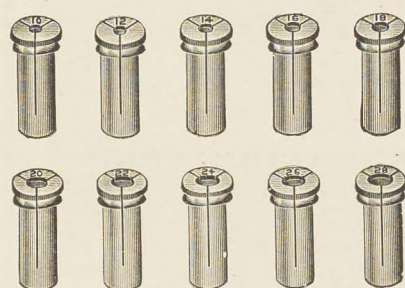
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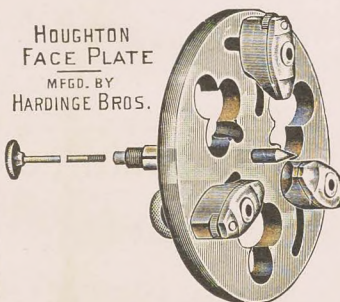
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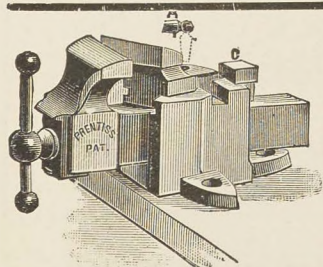
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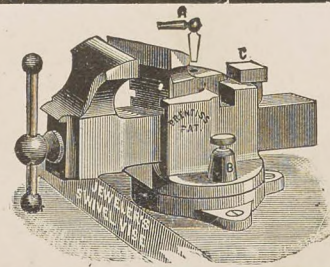
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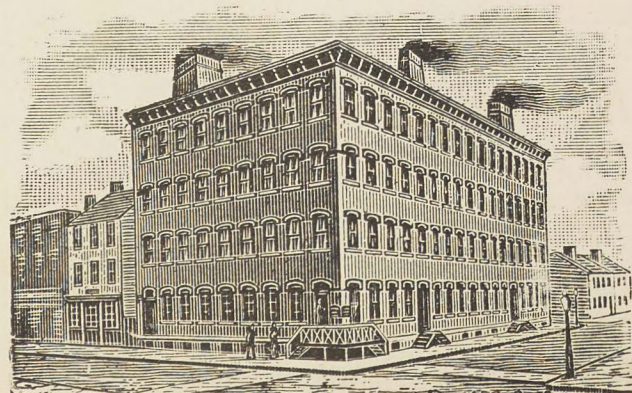
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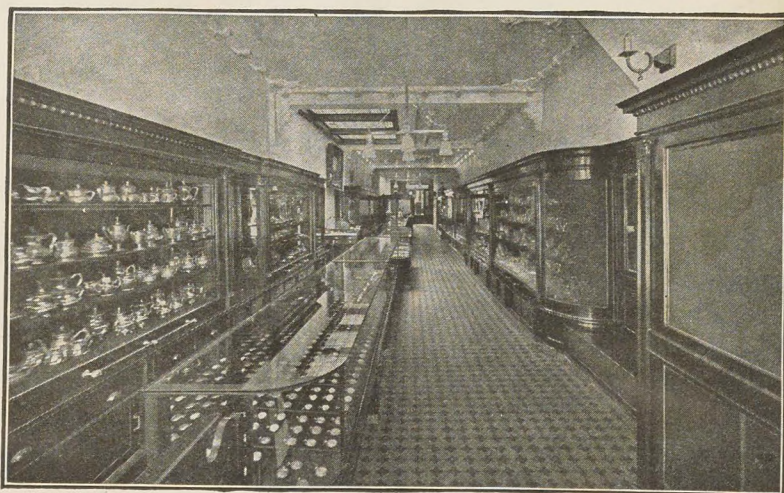


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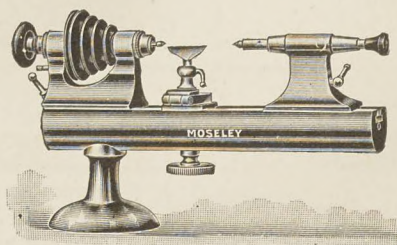
We respectfully ask you to let us assist you in
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Fixtures should be designed to suit the store,
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Imitated—but
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THE STANDARD OF EXCELLENCE

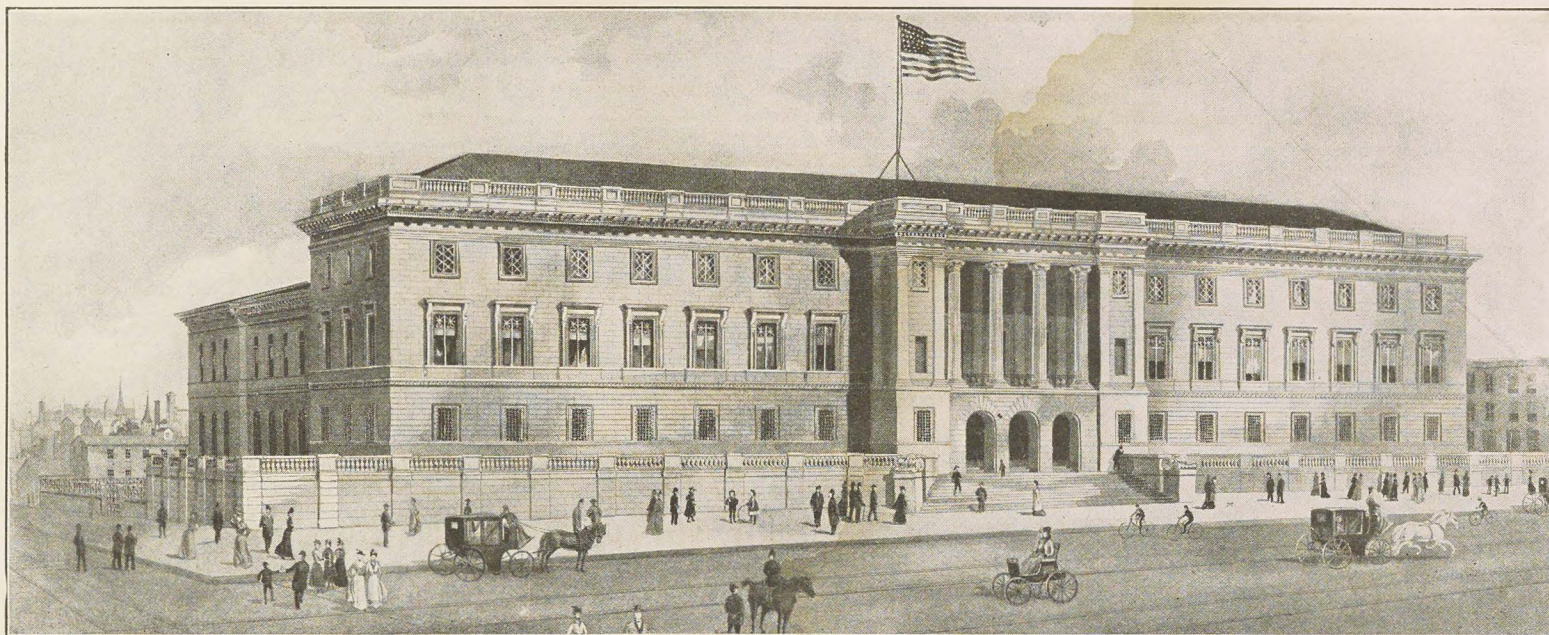
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Catalogue and Price-List

THE MOSELEY LATHE CO.
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U. S. Mint, Philadelphia

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at its mints and assay offices, large consignments of old gold, refines same and remits proceeds by express.

About 6 to 8 days' time is required to get returns, from which refining and coinage charges are deducted and return expressage to pay.

The value placed by the U. S. Government on a consignment is absolute and final, from which there is no recourse.

Wendell and Company accept at their assay offices and refineries small lots of Old Gold (\$1 to \$250), remit full value at once by draft, before refining, and hold consignments until valuations are accepted.

If there is any doubt about the valuation placed upon a consignment by them, it is immediately returned in its original condition, express charges prepaid.

Their large business requires complete assaying, smelting and refining departments. They handle without additional expense and use in their own factories all old gold and silver consigned to them. The difference in the value of old gold (before refining) and fine gold (after refining) is their profit, which is very much smaller than it would have to be if they conducted a separate refining business with a large investment in plants and expenses ranging from 15 to 25 per cent. of the value of old metal received.

THE UNITED STATES GOVERNMENT DOES NOT BUY OLD SILVER

It accepts same for refining, and returns the fine silver in bars, less the refining charges, by express.

Wendell and Company buy old silver outright at the full market value, which is governed by the price of fine silver.

DO NOT PAY YOUR BILLS WITH OLD GOLD OR SILVER

Sell it to Wendell and Company for full cash value and pay your bills with the returns. You will save much by so doing. Most of the firms that take gold and silver on account do not use it themselves; nor have they any means of ascertaining its exact value, but depend on others, who place a value on it that will afford two profits.

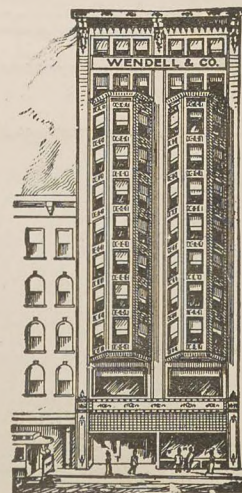
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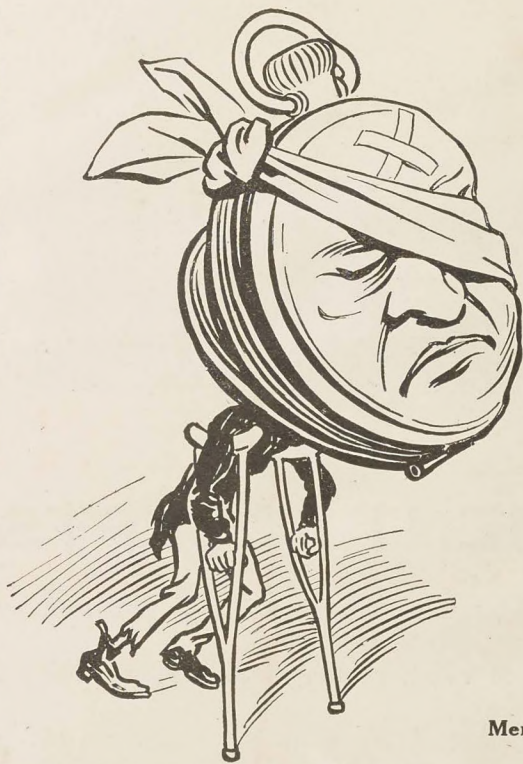


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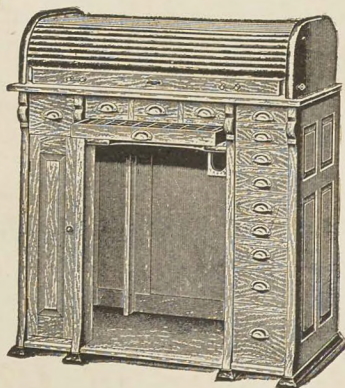
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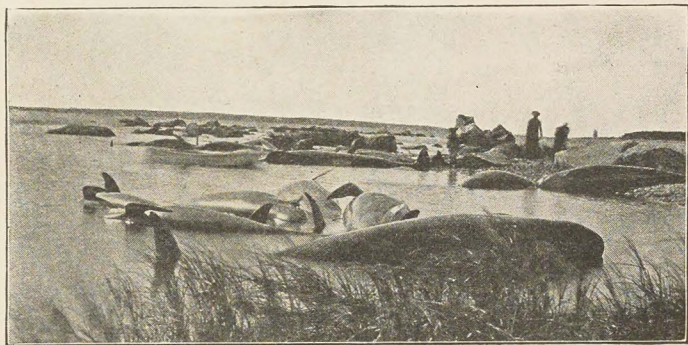
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Where the Watch and Clock Oil Originates



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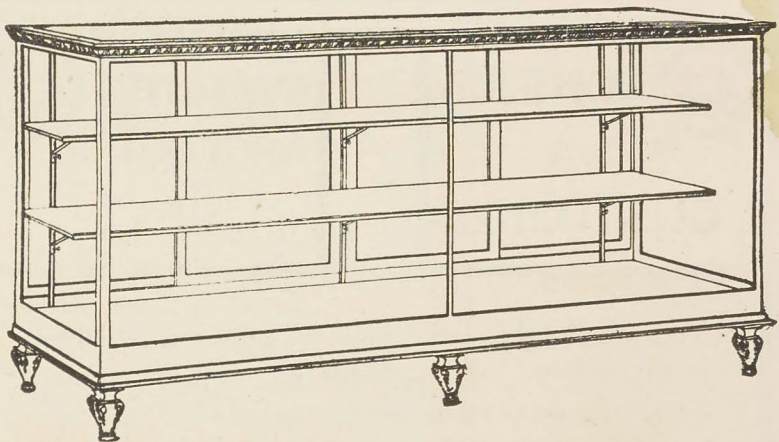


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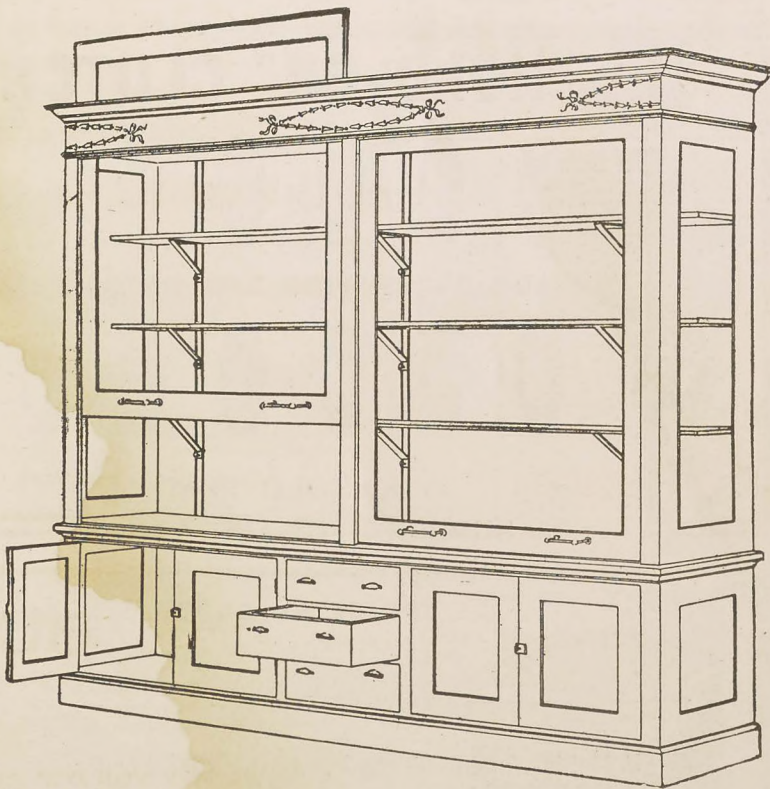
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The construction of this case is first-class. It has a nicely molded top, ornamented with egg and dart.

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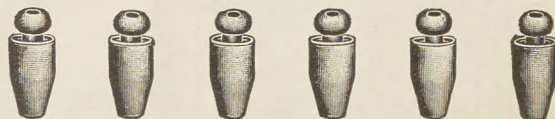
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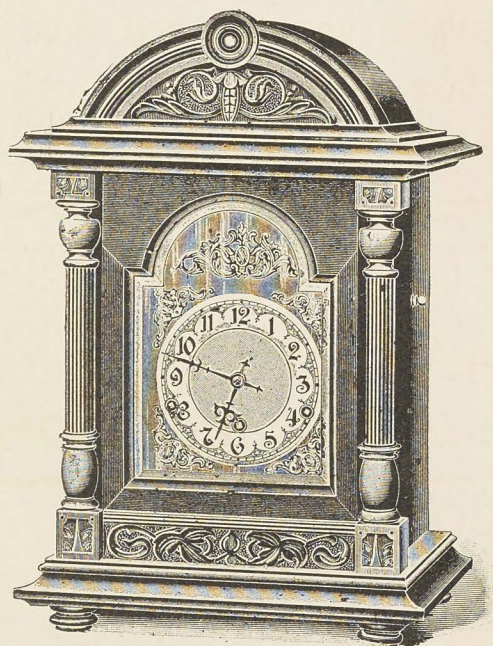
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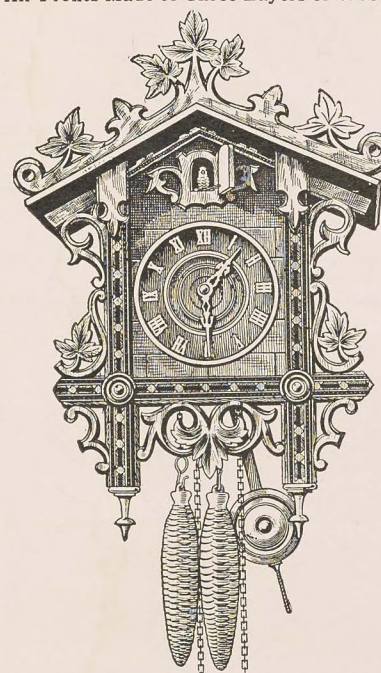
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We do RELIABLE Silver-Plating and Silverware Repairing



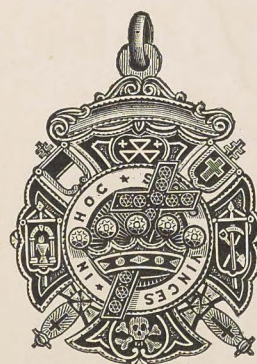
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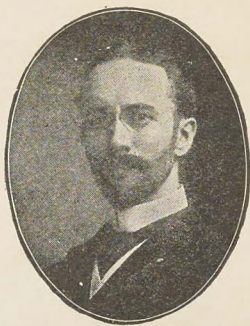


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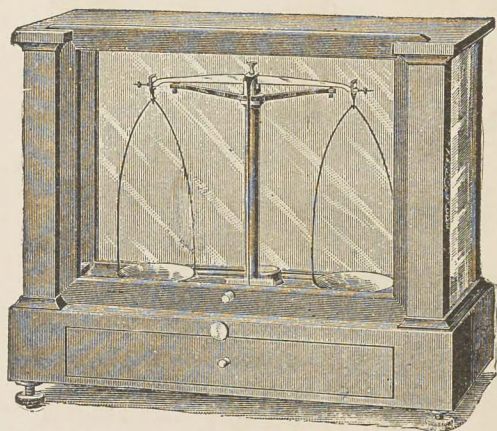
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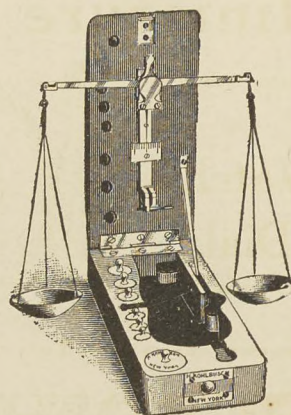
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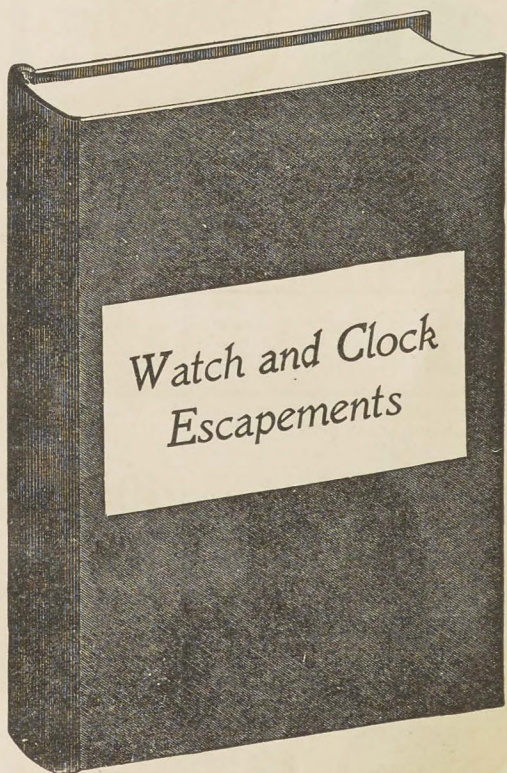


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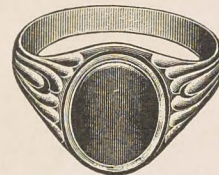
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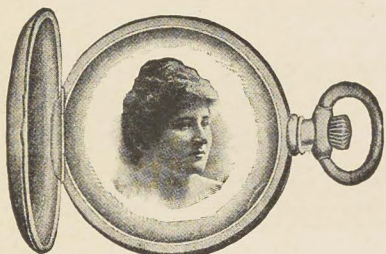
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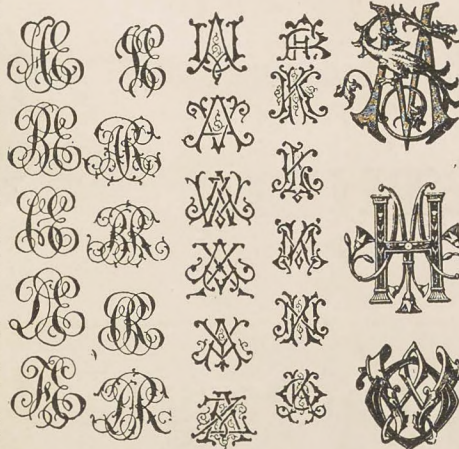
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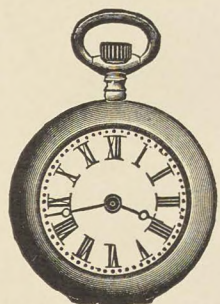
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We have had specially prepared for the jewelry trade a great number of appropriate illustrations for use in newspaper advertisements, circulars, stationery, etc., and are furnishing same at a nominal cost. A few samples, with prices, are here shown.

Sheets showing the complete collection—all sizes and kinds—with prices, will be sent on request.

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The rapid sale of the first edition of this valuable text-book for engravers necessitated the issuing of a second edition.

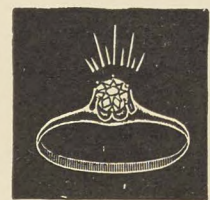
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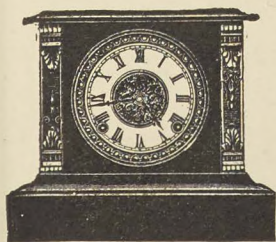
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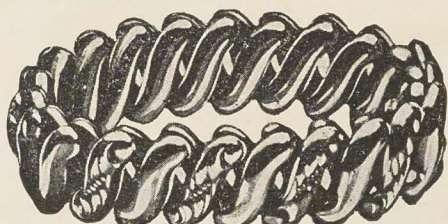
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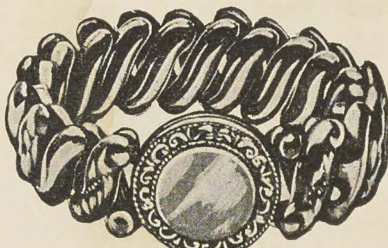
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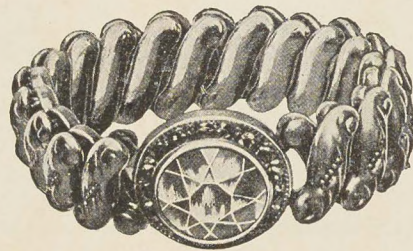
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Misses, \$15.75 per dozen



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Ladies, \$21.00 per dozen
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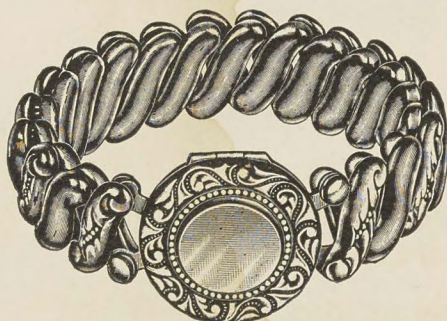


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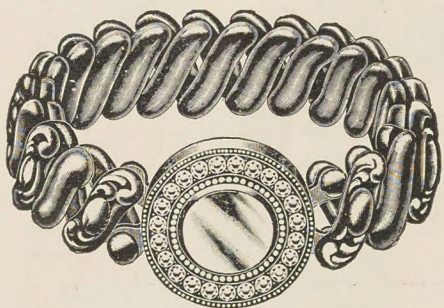
LADY
ETHEL



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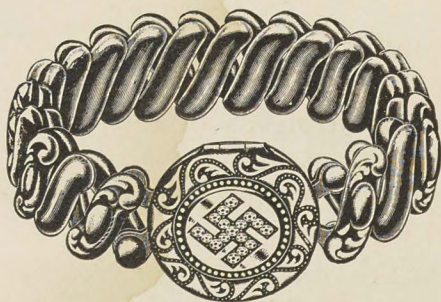
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Locket Signet, \$28.50 per dozen

Adjustable
Bracelets



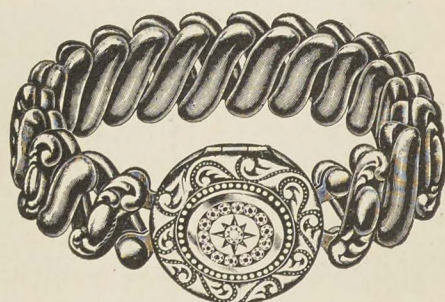
No. 36229

With Locket, \$33.00 per dozen
With Signet, \$30.00 per dozen



No. 36228

With Locket, \$31.50 per dozen
Without Locket, \$25.50 per dozen



No. 36231

With Locket, \$33.00 per dozen
Without Locket, \$30.00 per dozen

These prices are strictly net; positively no discount

THE NEW LADY ETHEL ADJUSTABLE BRACELET shows a great improvement over the old bracelet. The link has been made smaller, making the bracelet more compact and solid. The small link not only makes the bracelet lighter, but it makes it **stronger in every way**, and adds much to the beauty of the design.

We call your special attention to our prices on the New Lady Ethel Bracelet. They represent values never offered to the trade before. We may not be able to convince you of this fact on paper, but if you will write us for samples of these bracelets, we can convince you, as the goods will speak for themselves.

C. H. EDEN COMPANY

New York Office, 550 Broadway

Attleboro, Mass.

PERHAPS TO YOU



Blackinton, "OLD RELIABLE
W. & S. B. ★" chains are merely watch chains.

You may have a vague idea that they are made in Massachusetts, in a historic town named North Attleboro.

You know that they are made of $\frac{1}{10}$ gold filled wire and always give satisfaction.

You know, too, that all reputable jewelers sell them, but possibly that is as far as your knowledge goes.

Know, then, that in addition to being made of $\frac{1}{10}$ seamless gold filled wire—the standard of quality—they are Wearbest hardened to overcome the softening effects of soldering. As a result of this hardening process they will withstand at least a third more wear.

Know, too, that they are not sold to Department Stores or Retail Mail-order Houses, but are only sold through the wholesale jewelry trade.

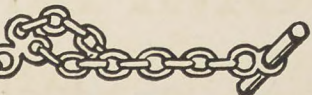
Know, finally, that North Attleboro was the cradle of the jewelry industry, and its inhabitants for generations back have been jewelers. Thus is it possible to employ skilled labor for every part of the making of a chain, that could nowhere else be obtained. Furthermore, all material used must stand a rigid test for quality, and every chain is inspected to insure perfect goods.

All this with one purpose in view. To manufacture and market through proper channels, the best gold filled chains in the world

Old Reliable W. & S. B. ★

New York—180 Broadway

W. & S. BLACKINTON CO., Manufacturers, North Attleboro, Mass.



"Am I Downhearted? No!"


"I have just been down to Maiden Lane with hubby and helped him select his fall stock. The best thing we saw was the choice stock of popular-selling goods at L. W. Rubenstein's



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"Hubby purchased all his jewelry, Emblem Goods and Rings there. We were delighted with the number of new styles and designs we could select from. It is certainly a pleasure to do business there, they are so attentive and anxious to please their customers."

L. W. RUBENSTEIN

 Our Emblem, Ring and Bracelet
Catalogs for the asking

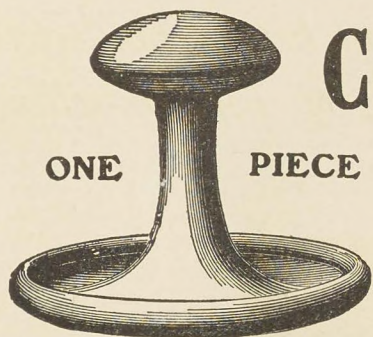
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Collar

Buttons

and Studs



ONE PIECE

"The Button that's Insured"

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They all harp on price, but never a word about

QUALITY

For Finish and Quality

The Krementz

maintains its lead, and furnishes better value than any other made.

Send for booklet, "The Story of a Collar Button"

All Krementz Collar Buttons—of every quality—are manufactured by

KREMENTZ & CO.

in their Factory

PARK BROS. & ROGERS

20 Maiden Lane, New York

Selling Agents to Jobbing Trade

NEWARK, N. J.



THE KEYSTONE

CONTENTS — JUNE 1908

Among the Trade	955
Artificial Precious Stones	997
Bohemian Glassware	956
Ceylon Pearl Shells	997
Cups and Trophies a Trade Boon	941
Cutting Down Electric Light Bills	930
Deposits of Meerschaum	997
Diamond Loss in Cutting	980
Government Assay Office and Its Work, The	1013
Hardness of Diamonds, The	1021
Items of Interest	1015
Letters from the Trade	1021
New Goods and Inventions	952
News Letters	
Chicago	947
Cleveland and Northern Ohio	980
Dallas	973
Detroit	967
Indianapolis	969
Kansas City and the Great Southwest	975
New England	971
New York	943
Northwest	980
Philadelphia	979
Pittsburg	977
Providence and the Attleboros	979
San Francisco	969
St. Louis	971
Toledo	977
Notes About Traveling Men	955
Optical Department	
Clinics in Optometry	1029
Light	1035
Questions and Answers	1033
Reviews of Ophthalmological Literature	1023
Tests and Studies of the Ocular Muscles	1027
Pearling in Australasia	999
Remarkable Street Clock, A	931
Show Window, The	1005
Stage Exploitation of Jewelry	965
Summer Advertising	1009
Stationery Department	1011
Take an Inventory of Your Faculties	1009
Technical Department	
Interesting Calculation in Horology	999
New Diamond Drill	941
Practical Watch Repairing	989
Talk to Ambitious Watchmakers	995
Tools and Methods	993
Workshop Notes	1001, 1003
Tweezer's Talks, John	1017
United States Patents	1019
Watch Inspection as a Railroad Institution	951
Wedding and Commencement Opportunities	929
Wedding Gifts	932

ADVERTISERS' INDEX ON PAGE 1051



The Trade Are Cordially Invited

to our enlarged Warerooms, 9-19 Maiden Lane, 18-22 John St., New York, to inspect the largest and most complete line in

Choice Sterling Silver, Fine Silver Plate and Rich Cut Glass

ever regularly displayed. We are also showing our usual new assortment of our Cut Glass with Sterling Silver Mountings.

We shall be pleased to have you make our offices your headquarters while in New York, whether you purchase largely or not—that is your privilege and our wish—and we offer you the freedom of our establishment.

Our facilities for producing in the best possible manner anything that can be made in Sterling Silver, Silver Plate or Cut Glass, which have been largely increased the past few months, are unsurpassed, and our combined force of several thousand experienced silver and cut glass workers are at your service.

INTERNATIONAL SILVER CO.

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9-19 Maiden Lane

NEW YORK

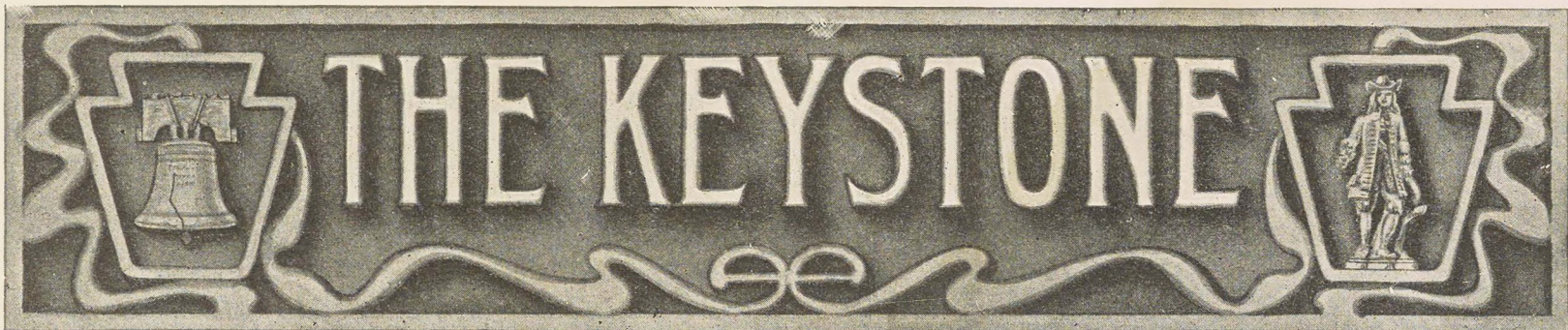
18-22 John Street—Fulton Subway Station

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A monthly journal devoted to the interests of the Watch, Jewelry and Optical Trades. The purpose and policy of this journal are the protection and promotion of all trade interests. A rigid censorship assures the reliability and worth of all reading matter, and the exclusion of all that is not trustworthy or relevant. We decline to insert advertisements that are unreliable, or misleading in representation, defamatory in statement or detrimental to the welfare of the trade.

Vol. 29

Philadelphia, June, 1908

No. 6

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Entered as second-class matter at the Post-office, Philadelphia, Pa.

THE KEYSTONE

A Monthly Journal Devoted to the Interests of the Watch, Jewelry and Optical Trades

Subscription—One Dollar per year, postpaid, to all parts of the United States, Hawaii, Porto Rico, Philippines, Guam, U. S. Island of Samoa, Cuba and Mexico; **single copies**, regular issues, 15 cents; special issues, 25 cents. To Canada, \$2.00 per year. To Foreign Countries \$2.44 (10 Shillings) per year; **single copies**, 25 cents (1 Shilling).

Payment for THE KEYSTONE, when sent by mail, should be made by Post-Office Money Order, Bank Check or Draft, or Express Money Order. When neither of these can be procured, send the money in a Registered Letter. All Remittances should be made payable to THE KEYSTONE PUBLISHING CO.

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Advertisements—Advertising rates furnished on application. No advertisements but those of a reputable character inserted.

To Advertisers—Copy for advertisements must reach us by the 25th of each month to insure insertion in the issue of the following month. Changes in advertisements should reach us not later than the 18th of the previous month. All communications should be addressed to

THE KEYSTONE PUBLISHING CO.

CHICAGO OFFICE 809-811-813 N. 19TH STREET
1201 HEYWORTH BLDG. PHILADELPHIA, PA.
LONDON OFFICE
ATLANTIC HOUSE, HOLBORN VIADUCT, E.C.

Table of Contents on page 923

Index to Advertisers on page 1051

Series of Art Cover Designs

ON this issue will be found the first of a series of art cover designs especially executed for this journal by one of the most eminent artists in the United States. One of these cover designs, printed in four colors, will be found on each number of THE KEYSTONE after this date, an innovation unique, we believe, in trade journalism. While these designs are remarkable works of art, they are made to serve a practical business purpose in that the ideas so artistically worked out are suggestive of the jewelry trade, commercially considered. This purpose is well illustrated in the cover design on this issue, as weddings furnish the jeweler and jeweler-stationer with one of their chief sources of revenue. The design which will appear on our July issue will be still more striking from an artistic point of view, and equally suggestive of the jewelry business. Fortunately for the artist, the peculiar character of the jewelers' craft lends itself especially to artistic treatment, making it possible for the artist to incorpo-

rate a commercial idea without marring the artistic excellence of the picture.

The ideas embodied in the cover design will be found amplified in articles in the several issues. For instance, in the present issue we have devoted considerable space to the matter of wedding and commencement gifts and the most effective methods of reaping maximum benefit from these golden opportunities. The cover itself may also be put to practical use as an ornament for store or window. No prettier centerpiece for a window display could be used than the design on this issue. In addition to the cover innovation, the contents of the journal will be enriched by many features specially suited to the month of publication and of much practical benefit to the trade.

The Brightening Outlook

DESPITE the advent of the normally dull midsummer months, those who have been eagerly awaiting commercial and industrial recovery now observe many hopeful symptoms. One of the most reassuring of these is the very promising crop situation. The government reports inform us that grain crop conditions are much more favorable than at this time one year ago. An encouraging consideration in connection with this is the high prices which still prevail and the unlikelihood of any decline from the present figures. As to the cotton crop, it is somewhat premature to venture a prediction, but there has recently been a sharp advance in the price of the staple, which is likely to continue and which will react beneficially on all branches of trade in the cotton country.

In the industrial situation, too, there are unmistakable signs of a material improvement. From practically all the manufacturing centers come reports of much greater activity, a gradual increase in the operating hours and additions to the forces employed. This is true particularly of the industries which have to do with the

jewelry trade. There has been in the past month a very material improvement in the situation in Providence and Attleboro, where many of the plants have already begun to operate on full time. That this improvement will continue is practically certain, as stocks all over the country are unusually low and a large reserve will be necessary to meet the resumption in buying now imminent.

AT the recent annual convention of the National Association of manufacturers a spirit of hopefulness, if not enthusiasm, in regard to the future prevailed. One of the speakers said: "We have been hearing something of hard times. They're going to change, and change soon, and when this meeting adjourns and the members of this association go to their homes, it is the duty of every man to tell every one he meets that the hard times are at an end and this country is on the verge of a great prosperity."

That this optimistic view reflected the feelings of all those present was shown by the unstinted applause with which it was received. The iron and steel industry, which is a recognized trade barometer, is already experiencing the upward trend. The business of the Steel Corporation, for instance, has shown a steady improvement for each month since January and important orders now being received speak hopefully for the future.

The railroad situation also reflects the bettering conditions. An immediate revival in the freight movement is now expected, and elaborate preparations are being made to cope with it. The New York Central railroad last month placed an order for 2000 steam cars, and the Pennsylvania Railroad has ordered all the idle freight cars to be placed in readiness for service.

AS the financial stringency, however, was the chief factor in causing the depression, an improvement in the money situation is naturally regarded as the basic

essential to the return of prosperous times. Such an improvement is now in evidence. In the remarkable demand which developed for the New York City corporate securities, some weeks ago, and also for the \$40,000,000 bond issue offered by the Pennsylvania Railroad, we have straws that indicate unmistakably the improved conditions. The success of the Pennsylvania Railroad issue is particularly gratifying, as it provides ample funds for the purchase of steel rails, equipment and labor, which, no doubt, will be immediately reflected in the industrial situation. The Union Pacific Railroad is now about to float a \$50,000,000 first mortgage issue, which will also provide funds for extension and general improvement. The reports of the national banks, with few exceptions, also indicate restored strength, and confidence in these institutions has been seemingly thoroughly restored.

It is especially gratifying to note the gradual improvement in the diamond trade. Each month now shows a material increase in the imports of the gems, and all fear as to a demoralized market have passed away. American diamond merchants are now crowding the European market, and it is said that quite liberal purchases are being made. Even the political situation has little that is uncertain or disturbing, and leaves practically nothing except the midsummer heat to interfere with the restoration of normal business and industrial conditions.

Annual Meetings of Jewelers' Associations

A NUMBER of important meetings of the retail trade will be held during this and next month, and the convention season will be brought, we trust, to a successful conclusion with the national convention, in Cincinnati. It is opportune here to remind our readers of the meetings and dates, as follows:

Missouri Retail Jewelers' Association and Kansas Retail Jewelers' Association, Kansas City, June 9, 10 and 11.

North Dakota Retail Jewelers' Association, Jamestown, June 16 and 17.

Iowa Retail Jewelers' Association, Des Moines, June 23 and 24.

Minnesota Retail Jewelers' Association, Minneapolis, July 6, 7 and 8.

Wisconsin Retail Jewelers' Association, Milwaukee, July 7 and 8.

Tennessee Retail Jewelers' Association, Chattanooga, July 7, 8 and 9.

Michigan Retail Jewelers' Association, Detroit, July 8 and 9.

American National Retail Jewelers' Association, Cincinnati, August 4 to 7.

Pennsylvania Retail Jewelers' Association, Philadelphia, August 10.

As in almost every case the annual meeting of the State optical association will be held in connection with the above, unusually large attendances are expected.

In our last issue we referred at some length to the broader spirit which now seems to actuate the organized trade and which greatly increases its potentiality for good. Our remarks seem to have struck a harmonious chord in the organization leaders, one of whom says: "Keep harping on this string, as I believe it will greatly increase our membership. Many of the jewelers taboo organization because they believe we are a lot of cranks with merely personal grievances." That some of the conservative element of the trade have such an impression is doubtless true, and it is for the organization itself to prove the fallacy of the idea. This, we think, they are on the way to accomplish.

THE secretary of one of the largest and most influential of the State associations writes as follows:

"I have read your comment on association work in the May number with much interest, and I cannot refrain from suggesting a reason for the more conservative feeling to which you have referred. In the past it has always seemed to me as if manufacturers did not have any use for the retailer except as far as he was serviceable in disposing of his goods, and it is only recently that the manufacturers have begun to aid us in our fight against the outside influences that have been preying upon us, and you can rest assured that the more this is recognized by the manufacturers, the easier it will be to get together on things of mutual interest."

This seeming willingness of all branches of the trade to give due recognition to the rights each of the other is a most hopeful sign from which nothing but good can eventuate. A knowledge of one another would in itself furnish a solution for numberless difficulties. The movement to form a national organization of the jobbers has culminated in a call for a convention, to be held in Detroit, for this purpose. This action of the jobbers will appeal very favorably to the retail trade, as organization greatly facilitates negotiation and makes possible quick and effective work in the solution of any difficulties which may arise.

It is needless to add that to accomplish maximum good the organizations of both branches of the trade should be strictly independent of each other. Too often meetings of the retail trade convey the impression of personally conducted affairs suspiciously responsive to interested influences. There is quite sufficient talent among the retail trade of to-day to conduct intelligently their own organizations, without compromising interference from any outside source.

There are matters for discussion at the coming conventions which make it imperative that the retail trade should think for itself, and thus, in whatever action may be taken, secure the confidence, respect and co-operation of the other branches of the trade.

The Stamping Bill

OWING to the partisan strife incident to the recent ante-election session of congress, no opportunity presented itself for the consideration of measures of a non-political character, and, consequently, the bill to regulate the stamping of gold filled cases, with numerous other bills, is held over until the next session. Considering the honest intent of the measure and the practical unanimity of trade sentiment in its favor, as expressed in conventions and by individual letters to this journal and to congressmen and senators, there is scarcely a doubt that it would have been promptly passed if opportunity had offered; yet, as some doubt seems to have been created in the minds of a small proportion of the trade, the delay can scarcely be regretted, as the interval will afford opportunity for discussion and enlightenment and will make it possible to have the bill introduced at the next session with the solid support of the trade.

As the measure will doubtless be given, in the coming months, the prominent place in convention discussion which its importance warrants, it is well that the trade should consider it from all points of view. In the first place, it would be futile to seek legislation which it would be impossible to obtain, and this brings up the question of compulsory stamping. It may be taken for granted that no bill will receive the sanction of congress which is directly destructive of any legitimate interest. The industrial policy of the country at present is to create and regulate rather than destroy, and a measure which would mean, in any sense, industrial curtailment would naturally be doomed to failure. While it is perfectly feasible to stamp filled cases of standard quality according to the provisions of the Vreeland bill, it would be absolutely impossible to do so in the case of very low-grade plated or gilt cases. Now, the making or selling of such cases is a perfectly legitimate business, provided they are made and sold for what they are. Compulsory stamping would entirely eliminate such goods, and as there are some concerns which make a specialty of the manufacture of this class of cases, and as many dealers find profit in handling them, a compulsory clause in the stamping bill would naturally be interpreted as a practical confiscation of such business, and for this reason alone would in

all probability fail of passage. The purpose of the bill as drawn was to purify the filled case business, prevent misrepresentation and imposition, not to destroy any branch of the industry legitimately conducted or to curtail the trade field in any way. In other words, it was intended to protect the trade and public, not to deprive the jeweler of the privilege of handling or the public from purchasing a low-grade case should they desire to do so or should their means prevent any better investment.

There is another objection to compulsory stamping which would have great weight with congress, sufficient possibly in itself to make the bill objectionable. As our readers are aware, our country has just awoken to the vast importance—if not the pressing necessity—of cultivating foreign markets. At the present time our government, through the Department of Commerce and Labor, has joined hands with the industrial forces of the country to extend the market for American products, and it is safe to say that any legislation which would be reactionary to this sentiment would find little favor. It doubtless has escaped the attention of many that the compulsory stamping of all gold cases made in this country would eliminate them from some foreign markets, as such stamping would conflict with the stamping laws in these countries. This industrial extension movement has been greatly stimulated by the recent domestic depression, and while thus far the foreign market has been a very small consideration compared with the home market, nevertheless, it is the hope of every patriotic American that our manufactures should be freely sold in the markets of the world, and it is the wish of all to cultivate and extend rather than to suppress such demand. The restriction, therefore, implied in compulsory stamping would, we fear, be very unfavorably regarded by congress.

IN framing the bill as it stands, all these and other considerations were taken into account, and the experts in legislative matters who drafted the measure are convinced that it represents the extreme in stamping regulation of filled cases which there would be any possibility of having passed into law. Insistence on compulsion practically means opposition to any legislation on this subject. It would be well, when the matter is brought up for consideration at the coming conventions, that the retail trade should thoroughly understand all the affecting circumstances in order that their own interests may be best subserved. We, ourselves, have supported the measure because we think it is in the interest of honest manufacture and in

the interest of the retail trade and the public, and because we deem such legislation necessary if the filled case industry is to be saved from discredit and demoralization and kept in the hands of the jewelry trade.

Cutting the Largest Diamond

THE diamond cutters of Amsterdam were much elated and their brethren in London correspondingly depressed by the royal decision to have the mammoth Cullinan diamond, presented by the Transvaal to King Edward, cut in the Holland capital. "It is deplorable," said a London diamond cutter, "that in the case of a diamond which will become of historic interest, presented by a British colony to a British king, there was, in the opinion of the king's advisers, no gem cutter in the kingdom capable of doing this eminently national work." This most notable contract in the history of diamond cutting was awarded by King Edward to the firm of Asscher & Co., Amsterdam, the senior member of which firm is at present visiting in this country. Mr. Asscher has volunteered the information that a defect in the stone made it impossible to cut from it one large gem. It was cleft in two in such a way that the cleavage was exactly in the center of the defective spot, leaving a part of it in each piece. From one of these pieces will be cut the large gem and from the other several gems of smaller size. Mr. Asscher said that the large diamond would probably be between 500 and 600 carats in weight when completed and be of the finest color. The precautions for the safety of the gem as described by Mr. Asscher are quite interesting:

"The diamond is kept in the strong room in our new factory, and is guarded day and night by four policemen. This strong room is on the ground floor of the factory, and the walls of the room are three-quarters of a yard thick and made of strong iron. The door can only be opened by a combination of numbers, which is known only by the three heads of the firm. Once the door is opened a strong iron barred door is displayed to view, which has to be unlocked before the strong room can be entered.

"At the left of the room there is a mahogany cupboard of ordinary appearance with two handles, but with no locks visible. There are, however, nine locks behind the sliding panel. The door of the safe is eight inches thick and conceals two carefully hidden safes, in one of which the Cullinan diamond reposes at night.

"The head of the firm, accompanied by ten men—all well armed—takes the diamond to its secure resting place for the night and returns it to the working room in the morning.

"There is a small patent recording clock outside the strong room, and it is the duty of the night watchman to make a certain mark on the clock every half hour and he is expected to live up to this duty to the second, although armed policemen walk up and down the building during the night."

Mr. Asscher stated that the process of polishing was already under way. Three men, he said, worked in the room from 7 o'clock in the morning until 9 at night, these

workmen not leaving the room during working hours; neither is any one allowed to enter this room without the consent of some member of the firm, who accompanies the visitor.

All the great diamonds of the world have had such a remarkable history as will make the Cullinan look commonplace, despite of its immense size. To look into the future and conceive a story for it should make an interesting task for our imaginative writers.

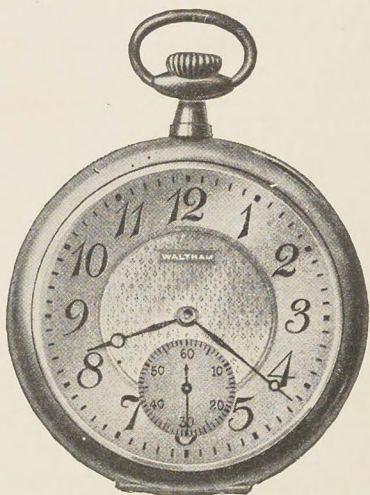
Conservation of Our Natural Resources

AGATHERING unique in character and most praiseworthy in purpose was held in Washington last month. The conference of the governors of States and other representative citizens, called by President Roosevelt to consider the problems of conservation of the nation's natural resources, was the first body of its kind ever convened in this country for any purpose, and the first body of any kind ever called together for the purpose specified. The unusual character of the gathering in itself served to accomplish one of the chief objects in view, namely, to fix public attention on the important subject under discussion. In no other way could the public at large be given so impressive an idea of the importance and urgency of the problem. One thing was forcibly demonstrated by the conference, which was that neither the States individually nor the Federal Government of itself can make satisfactory headway acting independently. Thus was laid the basis for future co-operation between the Federal Government and the States in the national effort in the direction of conservation.

In the room in the White House where this remarkable conference was held there were on exhibition two giant maps of the United States, made by the forest service. These maps, which are said to have been the largest ever made by mechanical processes, were the most impressive presentment put before the conference, measuring 12 by 16 feet, and colored to show graphically, one the mineral and on the second the other resources of the country. They were before the eyes of every member throughout the proceedings, and furnished constant illustration of the remarks of the speakers. The latter included the most distinguished names in commerce and in the sciences.

While no practical results can immediately accrue from this unique conference, it has, nevertheless been an unqualified success in giving the entire country some idea of the magnitude of the problems involved and of the imperative necessity of united national action looking towards their solution.

Waltham Watches



COLONIAL SERIES

These Extra Thin Watches
may be had in four qualities
of movements as follows:



RIVERSIDE; NICKEL

19 fine ruby jewels; raised gold settings; double roller escapement; steel escape wheel; exposed sapphire pallets; compensating balance, adjusted to temperature and five positions; mean-time screws; patent detachable balance staff; patent Breguet hairspring, hardened and tempered in form; patent micrometric regulator; tempered steel safety barrel; red gold center wheel; exposed winding wheels.

ROYAL; NICKEL

17 jewels; red gold settings; exposed pallets; compensating balance, adjusted to temperature and three positions; mean-time screws; patent detachable balance staff; patent Breguet hairspring, hardened and tempered in form; patent micrometric regulator; tempered steel safety barrel; exposed winding wheels.

No. 1425; NICKEL

17 jewels; red gilded settings; exposed pallets; cut expansion balance; mean-time screws; patent detachable balance staff; patent Breguet hairspring, hardened and tempered in form; patent micrometric regulator; tempered steel safety barrel; red gilded center wheel; exposed winding wheels.

No. 1420; NICKEL

15 jewels; settings; exposed pallets; cut expansion balance; mean-time screws; patent detachable balance staff; patent Breguet hairspring, hardened and tempered in form; patent micrometric regulator; tempered steel safety barrel; exposed winding wheels.

Riverside and Royal grades are supplied in Gold and Gold Filled cases, both Regular Jointed Open Face and Calumet (Single Joint).

No. 1425 and No. 1420 grades are supplied in Gold Filled cases only, both Regular Jointed Open Face and Calumet.

Colonial Series watches have Gilded or Silver Finish Metal Dials, as may be preferred. Solid Gold, 18 K. and 14 K. dials at an extra charge.

Movements manufactured and guaranteed by

Waltham Watch Company
Waltham, Mass.

Wedding and Commencement Opportunities

The wedding and commencement seasons are now here, and the time is ripe for the jeweler to profit by the opportunity. It is hard to stimulate trade in off seasons, but in June you may feel pretty sure that there will be a demand for goods in the jeweler's line, and the one who gets the biggest "slice" is the one who advertises most judiciously and who dresses his window in the most attractive manner.

Remember that in both graduation and wedding gifts it is not alone your brother jewelers with whom you are in competition, but the book stores, the furniture stores, and others, as nearly every line offers some suitable gift articles. In your advertising, then, do not dwell only on the fact that your silverware excels somebody else's, but use some arguments to prove that silverware is the ideal gift for the bride, or applying the same principle, that some useful article of jewelry will be a much more lasting remembrance for the boy or girl graduate than anything else that could be selected. Figures 1 and 2 give suitable matter for such advertisements.

Your window and store should be given an air of brightness with flowers in vases on the counters and some light cloth in the show window, brightened more by the use of dainty artificial flowers.

In dressing the window for the wedding season, try not to crowd things in too closely. Select a few representative pieces from each line and allow plenty of room between them. It is a good idea not to price too explicitly each piece or set displayed, because many people will not purchase a piece that has been displayed with the price, thinking that it has possibly been seen by the prospective bride. A good idea is to attach tags giving the range in price of the articles on which the tag is placed. For instance, on a cut-glass bowl a tag reading "Cut-Glass Bowls, \$3.50 to \$20.00." When there are in sight local weddings which should stimulate a demand for gifts, size up, as nearly as possible, the average amount that will be spent by the majority of those who will have presents to buy, and assort your stock accordingly, picking out the best pieces at about this price and making a special display of them. Then, it is a good idea for the smaller jeweler, whose stock of high-priced pieces is rather limited, to be prepared for possible requests for more costly things, by getting on approval a selection of suitable articles for which there is the most likely sale.

Sometimes, too, an opportunity will present itself to get a big proportion of the

business for a single wedding by running some special pattern. This works especially well where the bride does not receive a complete silver chest. For example, Mrs.

Graduation Watches

GRADUATION is an event in every boy's or girl's life that will be remembered always. A gift from father and mother should be of such value as to mark this day forever. Something that the son or daughter may refer to all their lives as father's and mother's graduation present. A watch is the gift ideal for the purpose. A handsome inscription engraved on the inside lid marks forever the occasion of the gift.

We are showing a complete line of watches purchased especially for graduation gifts. They represent the highest quality of workmanship both as to case and movement, and are the "everlasting" kind. We sincerely hope that we may have the privilege of showing this selection to every father and mother of the graduates of 1908.

BLANK AND CO., 919 Central Ave.

Fig. 1

Jones comes to purchase a gift. You understand that Miss Blank is not to receive a complete silver chest, and suggest forks as

WEDDING SILVER

Silverware is unquestionably the most pleasing bridal gift, and the unlimited variety of suitable pieces which we are showing includes more really new things than ever before.

In choosing a wedding gift, the taste of the bride must be considered, and there is no danger of a wrong selection in silver. In addition to our always-complete assortment of knives, forks, spoons and other staple pieces of sterling and plated flatware and hollowware, we have many new ideas, of which the following are a few of the more popular ones:

Sliced Lemon Sets. Sterling silver and glass dish and server, complete in case . . . \$8.50 upward
Mayonnaise Sets. Sterling silver dish and ladle, complete in case . . . \$8.00 upward
Salt and Pepper Sets, in sterling silver, complete in case . . . \$3.50 upward
Silver Holders for Tobasco and Worcestershire sauce . . . \$3.00 upward
Sterling Silver and Glass Relish Dishes, complete with server . . . \$9.00 upward
Sandwich Trays, in sterling silver, \$20.00 upward

Special Showing of Reproductions of Old English Sheffield Plate

Exact copies of the finest old patterns, including coffee sets, gravy boats, vegetable dishes, trays, sandwich plates, waiters, etc.
Range in price from \$4.00 to \$35.00

BLANK AND CO., 919 Central Ave.

Fig. 2

a nice gift. The price is \$20 per dozen, and Mrs. Jones only wanted to spend \$10. You suggest that she take only a half-dozen and some one else will possibly get the other set.

She thinks that a splendid idea, and will tell Mrs. Brown, and maybe Mrs. Brown will get the other half-dozen. Mrs. Brown does get the other set of forks, and then thinks how nice it would be if some one would get knives to match. She will tell Mrs. Smith, and so on. The writer actually worked this scheme in two instances, and in both cases the sale of silver flatware of one pattern exceeded \$150, and many sales were made which would very likely have gone to some other store, but the persons were told by friends to get something in this particular pattern at Blank's.

Be awake, and know your stock. Have suggestions ready for all occasions. Nearly every customer for a gift is undecided and wants suggestions of suitable things. The secret of getting the business is showing the goods. The biggest stock in the world won't sell itself, and the small stock well handled will get the business.

In delivering wedding or graduation gifts, be sure that they are neatly boxed and wrapped. When delivered direct from the store, the use of ribbon in tying up a package adds only a trifle to the cost and much to the appearance, and reflects favorably on the store.

If you are showing any special lines that you wish to introduce, a good way is to use blotters, as suggested in a previous issue.

For instance, a new line of pottery could be brought to the notice of your customers most strongly by the use of a blotter. An advertisement illustrated with the cut of some attractive vase and reading as follows would be sure to bring results if circulated on a blotter to the right class of trade.

"FOR THE BRIDE"

Always a cry for something out of the ordinary. We have it.

"BLANK POTTERY"

The handsomest and most artistic pottery ever produced.

Small pieces, 50c. to \$2.50
Large pieces, \$2.50 to \$10.00

The blotter is a splendid direct return-getter. If gotten up attractively, it will not be thrown away, and will bring your special lines before the people better than any other thing you could use.

For the jeweler who conducts a stationery department, the present month affords a double opportunity, as the matter of wedding stationery is no less profitable than the furnishing of gifts. This is one occasion when quality and style are desired irrespective of price, and when substantial profits may be secured. Additional suggestions on this subject will be found on other pages of this issue.

Cutting Down Electric Light Bills

THE incandescent electric lamp is, at first sight, one of the most commonly known and simplest household devices with which we have to deal writes George R. Metcalfe in the *Technical World Magazine*. The lamp in general use is labeled sixteen-candle power, and the average user of these lamps is generally contented with the mere knowledge of how to turn his light on and off, and does not trouble himself much as to the economical use of his lamps further than to turn them off when they are not needed. He will undoubtedly grumble at times at the amount of his monthly bill for lighting, and will often be inconvenienced by the dimness of some of his lamps, but the deficiency in light is made good by turning on another lamp, and the monthly bill is further increased. It would probably never occur to him that it would be an actual economy in dollars and cents to throw away his old lamps and provide new ones at his own expense; and yet such is the case.

Case of Incandescent Lamps

As simple a device as the incandescent electric lamp appears to be, it really requires considerable care and study to realize from it the maximum amount of light for the least money. Take the sixteen-candle power lamp as a standard, the lamp in most general use; it consumes about fifty watts of current; that is, a 100-volt lamp will require one-half an ampere of current to bring it up to candle power when new. As the lamp grows older the carbon of the filament disintegrates to some extent, due to its high temperature, and is deposited on the interior surface of the lamp bulb, causing the familiar blackening of the lamp. This blackening reduces the amount of light given off by the lamp, and the reduction in the size of the filament still further reduces the light, so that after a time the lamp which gave originally sixteen-candle power will not give over ten or twelve-candle power; and if it continues to burn long enough before breaking, its light may fall considerably below half of what it was when new.

Where the Loss Comes In

While the light is thus rapidly diminishing during the life of the lamp, the current required to operate it diminishes also, but in a very much less degree. During the time the lamp first loses three or four-candle power the diminution in the amount of current it requires is very slight, so that in effect it costs about the same to obtain twelve or thirteen-candle power after the lamp has burned for some time, as it does to obtain sixteen-candle

power when the lamp is new. After the lamps have lost fifty per cent of their initial candle power it will be necessary to use two lamps to fill the place of one new one, and the cost of light to the consumer, per candle power, will be nearly doubled. From numerous experiments which have been made the fact has been established that there is a certain point in the life of a lamp when it becomes actually cheaper to throw away the old bulb and purchase a new one to replace it rather than to burn the old one any longer. This point in the life of a lamp has been termed the "smashing point," and varies to some extent with the quality of the lamp.

Determining the "Smashing Point"

The "smashing point" cannot be accurately determined for any lamp without rather extensive tests, but in general it is not necessary to determine it accurately. A variation of one or two candle power will hardly be perceptible under ordinary conditions. It is only when the lamp falls off three or four-candle power that its dimness becomes appreciable, and it is a safe rule to follow, and it will prove more economical, to buy a new lamp rather than burn an old one after its diminution in candle power becomes noticeable. By this is meant that it will be more economical for the amount of light obtained, because as the lamps fall off in candle power, more lamps must be burned to obtain the original amount of light. If the reduced quantity of light from old lamps is sufficient, as for example, in halls and closets, it would still be cheaper to throw out the old lamps and replace them with new ones of smaller-candle power.

Probably the extreme useful life of any lamp is not over 600 hours, and in most cases 300 to 400 hours would be a more economical life, but as keeping a record of the number of hours most lamps are burned would be impossible, the most convenient and economical method is to renew any lamp that is noticeably dim.

An Erroneous Opinion

There are any quantity of lamps which have been in service from one-thousand hours which are erroneously believed to be very economical, as they have saved the cost of several renewals, but for the amount of light obtained from them the user probably paid from two to three times the price for current that a new lamp of the same candle power would require.

It will be readily seen that the initial cost of a lamp is a very insignificant part of its total cost. As a rough example, the cost of current for a sixteen-candle power lamp is commonly advertised as one cent per hour. If the lamp burns 600 hours it will cost six dollars plus the initial price of the lamp—say

a total of \$6.25. This is, of course, only a rough approximation, but it shows very clearly that replacing an old lamp with a new one is vastly cheaper than burning an extra lamp to make up the deficiency in light. It can also be seen that as the first cost of the lamp is but a very small fraction of its total cost, it will be economical to buy the very best lamp on the market. Here, as elsewhere, "Penny wise is pound foolish."

Hesitation is Loss

That "he who hesitates" loses is never more sure than in the treatment of merchants' left-overs.

The only treatment of a left-over that will surely avoid a loss from it is to sell it for what it will bring whether that be about cost or very much less.

Don't hesitate. Get rid of your stickers as soon as it seems likely that they will become left-overs.

If the first cut doesn't do the work cut again and then again. Keep up the process until you do reach the price at which the left-over will be bought by some one. True, the idea of taking a loss that may be considerable is not pleasant. But it should be remembered that a dollar in ready money is worth several dollars tied up in goods that won't sell.

Figure for yourself. Take some expensive seasonable article that pays 75 per cent. profit, but which turns only once.

Suppose its cost to have been \$5. And suppose you are forced to sell it for \$3 in order to avoid carrying it over.

That \$3 can be invested in things which sell over and over again and which, let us say, yield a profit of only 20 per cent.

Suppose ten turns are made in such goods. That will make your total profit \$6.

You may say that we have used extreme instances, but as a matter of fact the figures given are from an experience had in a certain retail store last year and the year before.

The year before last the merchant believed in carrying things over. Last year he tested the plan of carrying nothing over.

The comparison we have given was but one of scores that he could and did make with the result that now he carries nothing over and takes pride in making the assertion that he has no left-overs in his store.

For yourself learn by a few experiments that hesitation is loss when it comes to getting rid of stickers.

—Butler Bros.' Drummer.

"The Keystone is 'the goods,' and cannot suggest anything that will improve it. I am interested in all of the reading matter, ads. and all."—M. B. Gary, Jeweler, Dayton, Ohio.

A Remarkable Street Clock

In the accompanying illustration is shown what the owners claim to be the most remarkable street clock in the country. As shown in the picture it stands in front of the store of Jessop & Sons, San Diego, Cal., by which firm it was designed and made. It is claimed for this clock that it is the first street post clock with a tourmaline jeweled movement ever made; that it is the first street post clock ever built with twenty dials; is the first street post clock ever made with visible works enclosed with plate glass; that it is the only street post clock ever built that tells the month, the day of the week and date, and the only clock of its kind ever built in a retail jewelry store in the world.

The clock stands twenty-one feet high over all, being fifteen feet from the sidewalk to the center of the dials, of which there are four, each four feet in diameter, the whole being surmounted by an eagle. The north dial has a center dial two feet in diameter, indicating San Diego's time. This dial is surrounded by twelve smaller dials, each about ten inches in diameter, telling the time of the following cities: New York, London and Liverpool, Paris, Berlin, St. Petersburg, Calcutta, Tokio, Hong Kong, Melbourne, City of Mexico, Milan and Cape Town. The dials and clock movement will be illuminated at night. This clock had its inception in the brain of J. Jessop twelve years ago. He is very proud of the achievement as it is the crowning glory of his long business career.

The construction of this clock is entirely original to begin with. Original drawings were made, then patterns of every part were constructed and even special tools had to be designed and made by them for this particular work. The jewels, some from their own mines, were made in their own shop. Among the jewels used are the tourmaline from Mesa Grande, and California jade, topaz and agate. The clock is made and finished equal to the highest grade watch, the best gun metal and finest steel being used, even the large plates being damaskened.

The escapement is what is known as the gravity precision escapement, and has several novel improvements of their own invention. The motive power is a 200-pound weight, and the clock winds itself automatically. Many unforeseen obstacles had to be surmounted, but the horological skill of this firm was ample to overcome all these difficulties. Chimes of eight tubular bells will be installed later. These have been delayed in construction owing to sev-

eral important improvements which are being patented. It is said that the clock called for an expenditure of \$3000.

This clock movement was exhibited at the Sacramento State fair last September and was awarded a gold medal. J. Jessop & Sons were also awarded a prize at the State fair in 1906, for two complete watch movements they made, which

except to some one important, not having it, who might desire it. When one was to be honored the magistrates formally gave him the casket and a key inside.

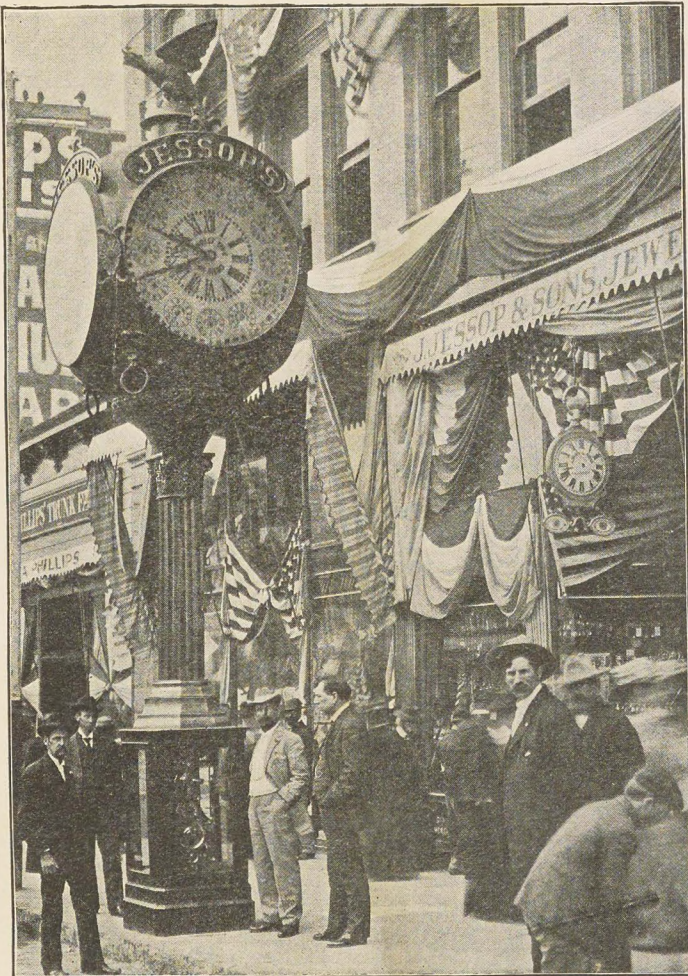
It has always been and is now, in England, esteemed one of the greatest honors attainable for one to be given this badge of freedom. Only illustrious personages receive it.

Joseph Jessop arrived in San Diego, direct from England, seventeen and a half years ago, and has resided at San Diego and Coronado ever since with the exception of two years at Miramar. He established the present business over fifteen years ago.

Popularity of the Bracelet

Of all kinds of jewelry the pieces which give the most distinct pleasure to the wearer are bracelets, long watch chains and rings, and the cause of the popularity of these pieces is that they are at all times visible to the wearer and not only to the more or less careless glance of the passer-by. And it stands to reason that when a longed-for bit of jewelry has finally been acquired, the owner would derive pleasure in examining it from time to time other than during the few seconds when it is being pinned to the gown and replaced in its case.

For the last two or three years both bracelets and chains have been accorded almost unusual regard, for the vogue of short sleeves now commencing to go out of favor has brought forth many new and exquisite designs in all manner of bangles and chain bracelets, while whenever the fashion permits of a wide belt separate from the gown, a long watch chain, with a rather simple design of watch, is worn. Just now, however, so many of the gowns are made with waist and skirt in one piece, or are cut to give that effect, with a high empire girdle that the watch chain has been very much shortened and the watch suspended from it, which falls about to the edge of the yoke on the bodices, must be an exquisite example of enamelware and jewel setting. In bracelets the wide chaste gold bangles with jewel settings are perhaps the most fashionable at the moment, and they will continue in favor as long as the short sleeve lasts.

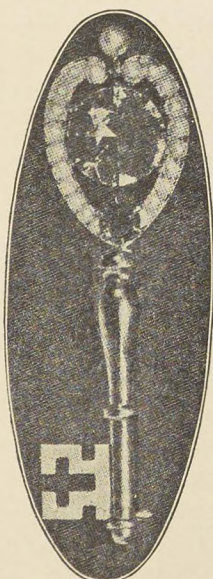


Street clock with twenty dials

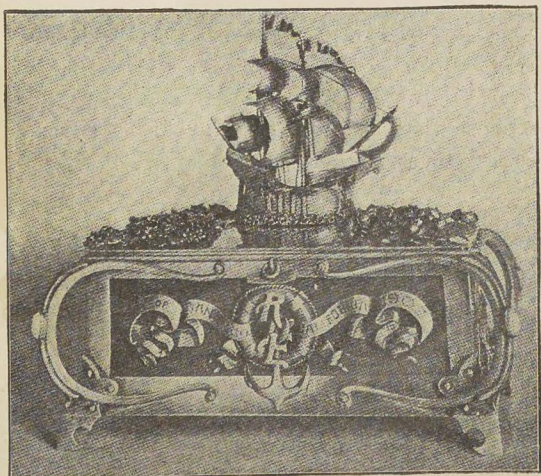
were stated to be the only watch movements ever made in a jewelry store in California. Also a silver medal was awarded to Richard Jessop for constructing a micrometer caliper, which will divide an inch into 10,000 parts.

This same firm of Jessop & Sons had the distinction of finishing the key and casket given to Admiral Evans by the municipality of San Diego, when the freedom of the city was presented to him on the occasion of the recent visit of the fleet. The key is valued at \$250. The stem is of rich native gold. The handle has one large, limpid, four-carat, rose pink tourmaline in the center. This is surrounded by twenty-three pearls from La Paz, Lower California, and just below the large tourmaline is a smaller one, emerald green.

The symbolism of the key and casket is interesting. It is an heirloom of a venerable English custom. The casket represents the freedom of the port and the key that of the city. Back, far back in the history of the mother country, when the feudal system existed, the custom of presenting the freedom of the city originated. In those days only the freemen could carry on trade. No slave, no outsider had a right to do so, without special dispensation. The honor was rarely granted



Key presented to Admiral Evans



Casket presented to Admiral Evans

FOR WEDDING GIFTS

Silverware Peculiarly Appropriate—Methods of Display and Other Ways of Featuring the Line

The month of June being a great period for weddings, progressive merchants and department heads are now perfecting their plans for bringing prominently forward lines of merchandise which are suitable for wedding gifts, says a writer in the *Dry Goods Economist*. It is hardly necessary to say that among such lines silver and silver-plated wares stand in the front rank. A well-selected, well-balanced stock of such goods affords an almost unlimited choice, and it provides the further advantage that selections can be made at almost any price, from a very low figure up to a comparatively high one. That it pays them to feature such goods is a fact that is generally recognized, more especially as there are few stocks which so readily lend themselves to display and to advertisement by other methods—illustration, for instance.

Two Methods of Display

Most merchants have found that for goods of this character two forms of display are ahead of all others. First, the glass shelf with mirror background; second, the dark background of wood, either covered with velvet or otherwise.

Both of these methods are extremely effective. The mirrors, reflecting the bright surface of the goods, enhance their already rich appearance. On the other hand, the dark background affords an effective contrast to the glittering ware.

For the latter kind of display, fixtures of inexpensive form may be successfully employed. For instance, a fixture of pine or other soft wood, stained and otherwise, finished in dark Mission effect, produces an effect which in many cases will prove about as satisfactory as that produced by a fixture of a far more expensive character. However, there is no limit to the expense that a house may lavish on silverware fixtures if the management so decides.

Whatever method of display is adopted and whatever kind of fixture is employed, plenty of artificial light is essential. In some respects this is an advantage, inasmuch as a better opportunity is afforded for the lighting up of dark corners. Moreover, natural illumination, or in other words, daylight, is not essential to the showing of silverware. In fact, the goods look

better under artificial light, and for this reason many large stores use the warm, yellow incandescent light in their silverware department in preference to the cold, white arc lights.

Where the incandescent form of lighting is adopted it is customary to have most of the lamps placed in trough reflectors so that the light is thrown directly on the articles and shaded from the eyes of the spectators. A few incandescent lights, however, are used with reflectors so as to add to the ornamental and pleasing appearance of the section or

of a gift may write a suitable inscription. These cards should be attached to the article by means of a ribbon.

Another plan adopted by some successful establishments is to feature in the department envelopes having a hole punched in one corner. In such an envelope the purchaser places his or her personal card and then the envelope is attached to the gift with ribbon.

Show as in Table Service

In displaying hollow and flatware for table purposes it is found well worth while to display the articles in groups just as they will appear when in use.

To this end a number of china plates are arranged, each surrounded by its accompanying silver for luncheon, dinner or other meals. Such displays are always interesting to the public and frequently result in purchases.

They are particularly valuable from the fact that they suggest to women who desire to follow the best usage in all matters the wisdom or necessity of purchasing certain articles which they do not possess, but which are essential to a correct table service. In any case they are sure to elicit favorable comment. If it is more convenient, an effective display can be made even without china. Information as to the number of pieces of silverware used by fashionable people for each service, if not forthcoming in the store, can be obtained from a local hotel or other catering concern.

China Department

In some departments the table-setting idea is carried out on a larger scale in the china department, not only china and the accompanying silver being shown, but also glassware. This affords an excellent opportunity for the display of silver-plated candelabra equipped with shades, and also of flower vases and fern dishes filled with the plants for which they are designed, either natural or artificial.

In advertising or otherwise pushing wedding gifts, it is always well to dwell upon the accurate and prompt service furnished by the store in the matter of delivery. Appropriate forms of packing should also be featured.

In no case is the sale of guaranteed ware more important than in connection with wedding gifts. In the long run, unreliable goods will always bring the retailer more harm than good, and this is especially true when the goods are purchased by the customer to be used as presents, whether for brides, graduates or other friends.

John C. Pierik & Co.
OPTICIANS GOLDSMITHS
FINEST JEWELRY STORE
IN
CENTRAL ILLINOIS.
Established in 1886

Spring and Summer
The two most beautiful months in the year are at hand. Seasonable Jewelry is now in demand. Our lines are completed, staple and ornamental articles, in the newest designs, are ready to be shown, prices are as usual, consistent and moderate.
WE CORDIALLY SOLICIT AN INSPECTION

DIAMONDS
April is the Month of Diamonds.
As stated in our previous advertisements, there shall be no reductions from the present diamond prices. The market is as strong as ever and only those who have had on hand a large stock will be able to sell at right prices. Our stock, we may say without contradiction, is the largest in this section of the state, hence we are able to keep our prices in this line the same as before.

BUCKLES
Buckles are very popular at this time of the year. Lots of new designs are being shown in gold and silver at50c and up.

WATCHES
Special Prices for this month. Fine domestic movements in warranted case.....\$7.50 up Solid gold\$25.00 up

Back Combs.....50c up
Neck Chains.....75c up
Lockets.....\$1.00 up
Brooches, Coral, Lapis Lazuli, Agate, Jade, etc.....50c up

Scarf Pins.....50c up
Hat Pins.....25c up
Belt Pins.....50c up
Stock Pins.....25c up
Hardy Pins.....25c up
Bracelets.....\$1.00 up

Optical Department is in Charge of
Wm. C. Sommer
Pierik Building Springfield, Illinois

Fine type of newspaper advertisement—Original occupied a space of 6 x 10 inches

corner. In the case of hollowware it is usually found advisable not to make the display too crowded in character. This is especially the case where mirror backgrounds are employed, since the reflections naturally tend to increase the crowded effect. With flatware, however, the contrary is the case. These goods are generally found to sell best when displayed in profusion and accompanied by price-tickets.

A very beautiful effect is produced by placing artificial flowers in vases and other hollowware intended for holding cut flowers. In the same manner artificial ferns may be placed in some of the fern dishes, thereby giving the customer an idea of how the article will look when applied to the purpose for which it is intended.

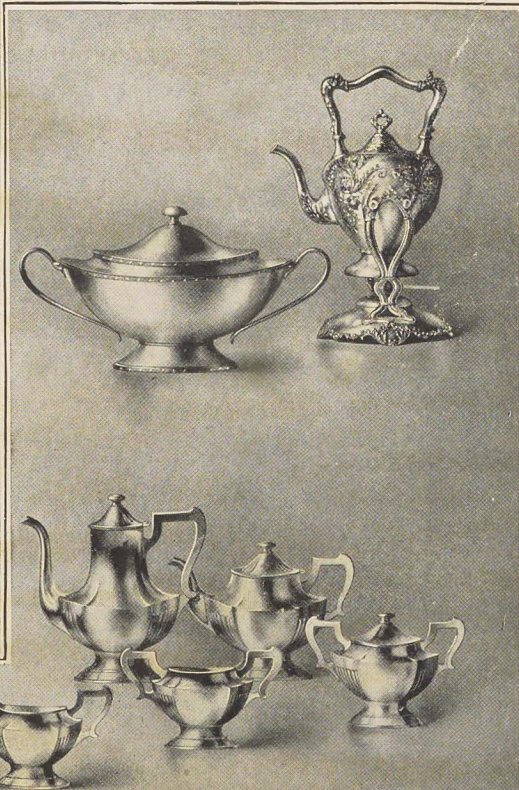
The department or section should also be supplied with cards on which the purchaser

New Patterns In Silver Plate

See the latest patterns in silver-plated hollowware bearing our well-known trade-marks.

The variety of our new designs is wide, while the quality—as is well known to the trade—is the highest.

Illustrations of our goods will be sent to dealers who cannot readily get into communication with our representatives.



Every Dealer

should have our catalogue, "81-K," illustrating

"1847 ROGERS BROS."

Knives, forks, spoons and fancy pieces. If you haven't one, write for it.

**Meriden
Britannia Co.**

(International Silver Co., Successor)

Meriden, Connecticut

COST—QUALITY— ATTRACTIVENESS

Three points upon
which we cordially
invite comparison

YOU will never realize the degree of artistic beauty these goods have attained until you see some of our extraordinary creations. We are sparing no expense to retain our reputation as the **leading originators of art metal designs.**

Our variety of finishes are produced in such a way as to insure the highest possible degree of good wearing quality. That's what makes our goods **absolutely reliable** as well as **extremely attractive**



The Highest Achievement
in the Production of
Art Metal
Goods

A trial order will prove all our assertions.
If you've missed our salesman, don't miss
our catalogue.

**THE BRAINARD &
WILSON CO.**

Factory and Main Office, **DANBURY, CONN.**

New York Office
621 Broadway
F. J. FOSTER, Manager

Chicago Office
103 State Street
E. A. DORRANCE, Manager



Combined Bowl and Vase

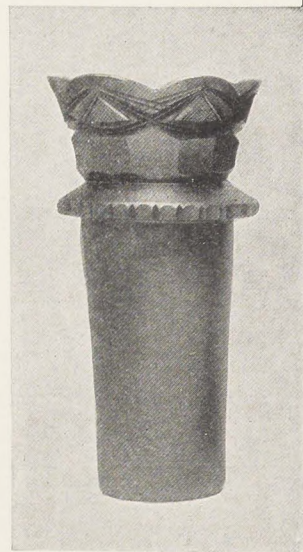
New Cut Glass Flower Urn

Heretofore cut glass was practically useless as a flower holder, because the water and flowers within dulled or destroyed the brilliancy of the glass. This difficulty has been completely overcome by the new combined rose bowl and vase known as

The Venice Flower Urn

This urn has, within the bowl, a vase for holding the flowers and water, the bowl thus retaining its natural brilliancy. The vase fits the bowl neatly, both combined making a seemingly single piece, as shown in the illustration.

Thousands of cut glass purchasers are waiting for just such a flower holder as this. To show it is to sell it. Be the first to reap the benefit.

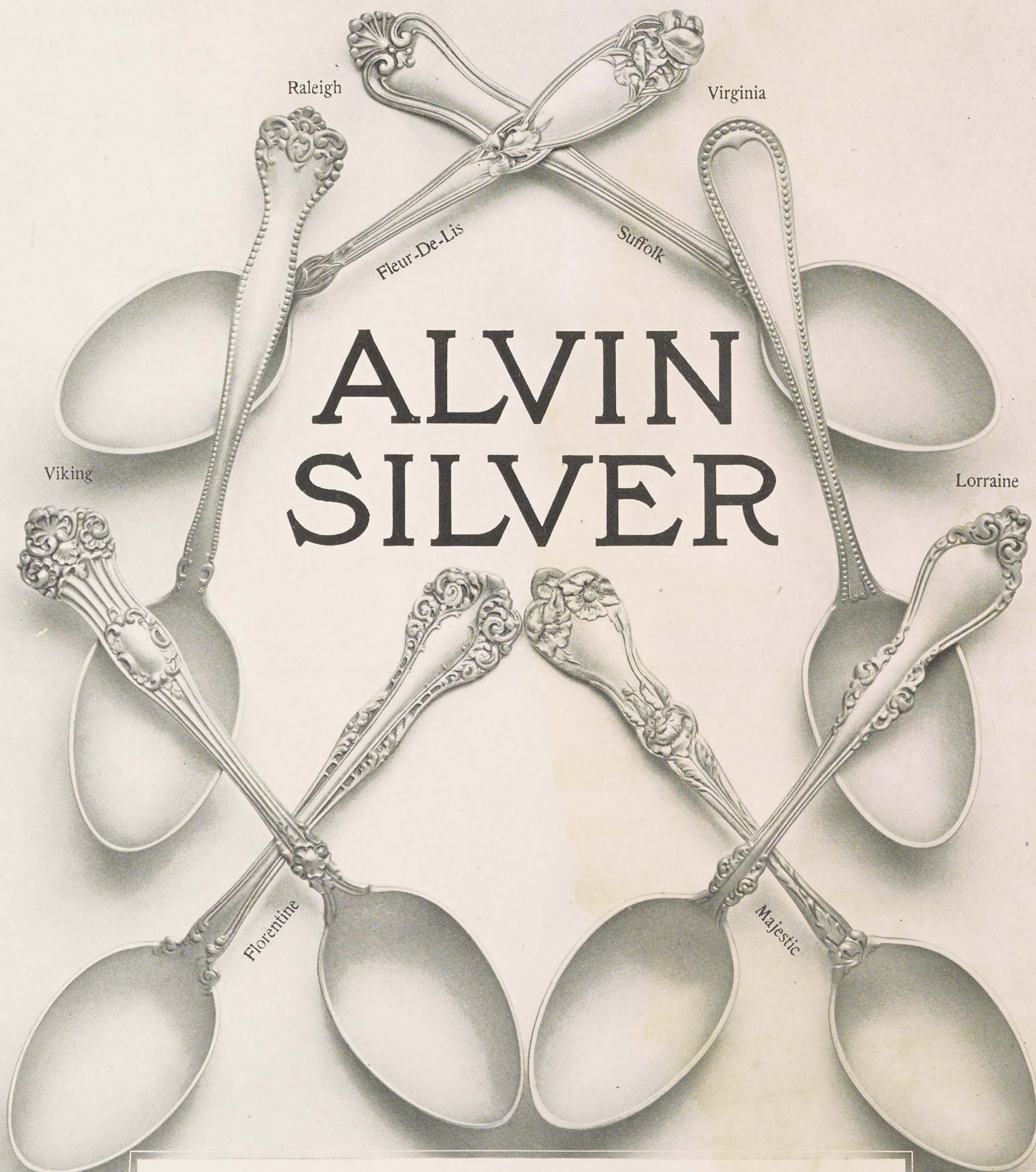


Vase Which Fits in Bowl

Artistic Design, Deep Cutting and Diamond Sparkle

H. O. HURLBURT & SONS,

14 South Tenth Street
PHILADELPHIA, PA.

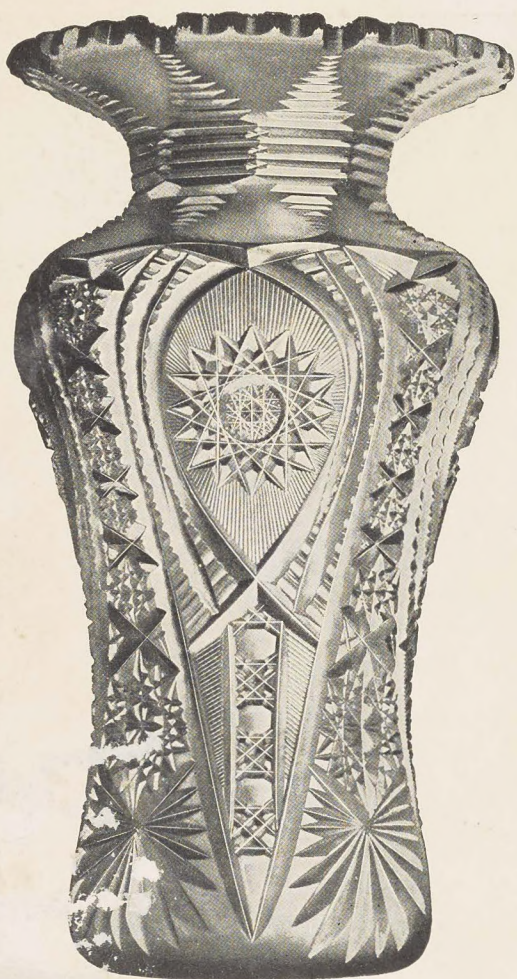


ALVIN SILVER

Ounce goods in any of the above sterling silver flatware patterns can be sold by the retail jeweler with a good profit at \$1.00 per ounce. Price-list and samples will be sent upon request. A full line of ounce goods and fancy pieces are made in each pattern and all orders will be filled with promptness and dispatch.

ALVIN MFG. CO.
52 MAIDEN LANE
NEW YORK





1059. Vase, "Pauline"

The Pairpoint Corporation

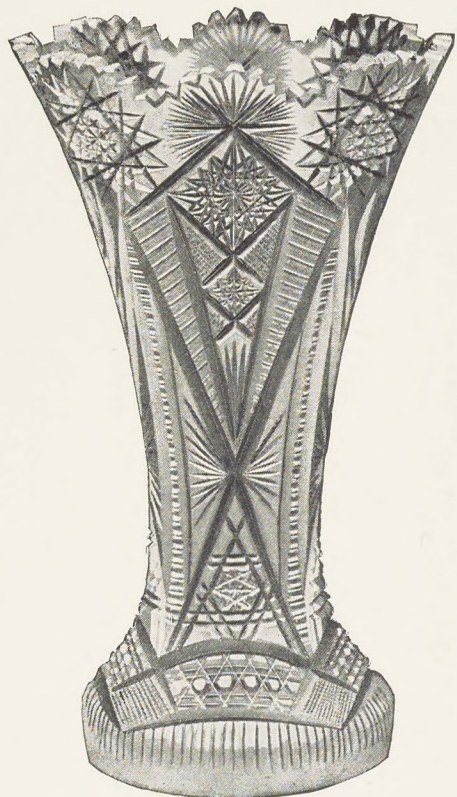
New Bedford, Mass.

RICH CUT GLASS WARE
SUPERIOR
SILVER-PLATED WARE
Electroliers Gas Portables
Beautiful Hand-Decorated
Shades

Photo Books! Showing our New Spring
 Designs, now ready for the trade

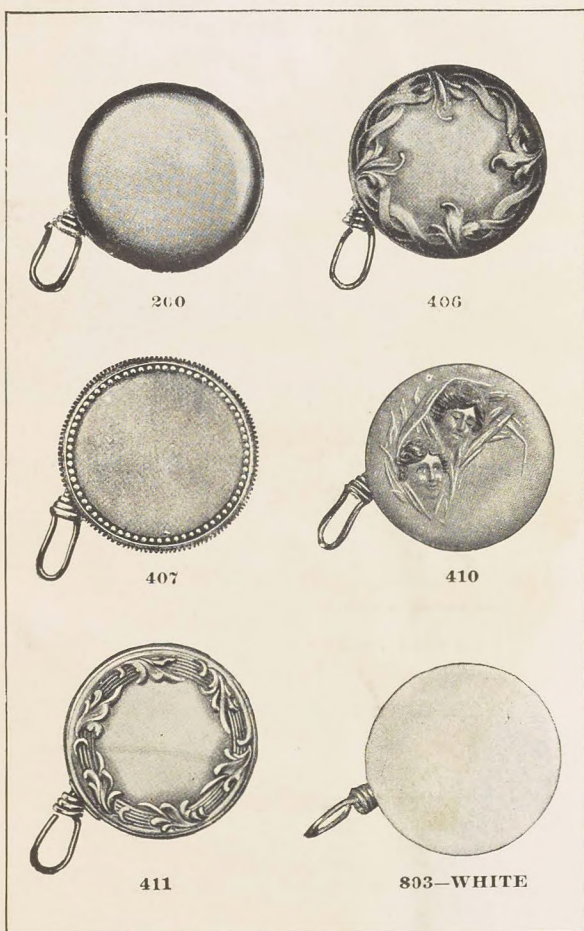
BRANCHES

38 Murray St., New York City
 717 Market St., San Francisco, Cal.
 485 St. Catherine St., Montreal, P. Q.
 Factories and Main Office, NEW BEDFORD, MASS.



No. 1036. Vase, "Dorothea"

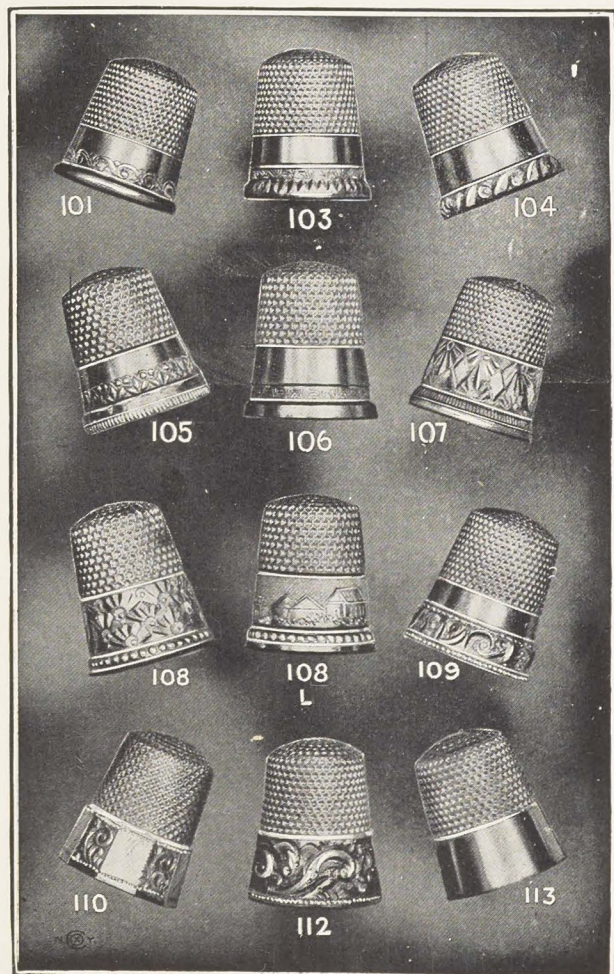
The Automatic Eyeglass or Pencil-Holder



ESTABLISHED 1832
KETCHAM & McDOUGALL
 MANUFACTURERS
 GOLD & STERLING SILVER THIMBLES
 AUTOMATIC EYEGLASS HOLDERS
 37 AND 39 MAIDEN LANE, N.Y.
 SEND FOR CATALOGUE "E"

Made in **WHITE**,
 Black Enamel, Gun
 Metal, Rolled-Plate,
 Gold and Silver. These
 are being advertised
 in leading magazines,
 directing purchasers to
 jewelers and opticians.
 Sample sent upon re-
 quest.

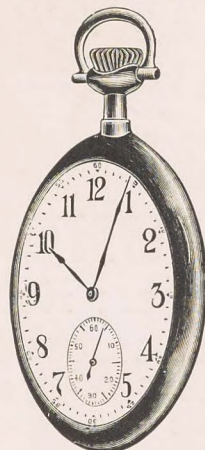
GOLD AND SILVER THIMBLES



Keystone Solid Gold Watch Cases



"A"



"C"

"THE VOGUE"

- ¶ Flush Joint—made in 12 size Queen only.
- ¶ Illustration "A"—Fair Weight. Antique Pendant, French Bow, Plain Polish only.
- ¶ Illustration "C"—Heavy Weight. Elliptical Pendant, French Bow, Plain Polish, Satin Finish, Roman.
- ¶ The Thinnest and Most Compact Case made for Standard 12 size American Movements.
- ¶ A Case that will give good satisfaction, meeting the requirements of a popular-priced watch.
- ¶ Write your jobber for Samples and Prices.

KEYSTONE 14 K. SOLID GOLD CASES ASSAY

585 THOUSANDTHS FINE

(14 K. GOLD ASSAYS 583 $\frac{1}{3}$ THOUSANDTHS FINE)



in back

Note this Guarantee



in cap

Look for



This Tag

THE KEYSTONE WATCH CASE CO.

NEW YORK
CHICAGO

PHILADELPHIA

CINCINNATI
SAN FRANCISCO



JUNE is a month of more than ordinary interest to the jeweler; its weddings as well as its commencement exercises mean increased business.

The giving of tokens of love and esteem to the various participants are events in which he shares to his material advantage.

We can supply you with everything required in this line, from fine diamond pieces for the bride to moderate-priced, but handsome coral, cameo and semi-precious stone brooches, scarf pins and dumb-bell buttons for the bridesmaids and ushers; this class of goods is also especially suitable for graduation gifts, on account of the engravings on the cameos, consisting of historical and mythological figures.

HENRY FREUND & BRO.

ELK and EAGLE GOODS a Specialty

"Sellers of Sellers"

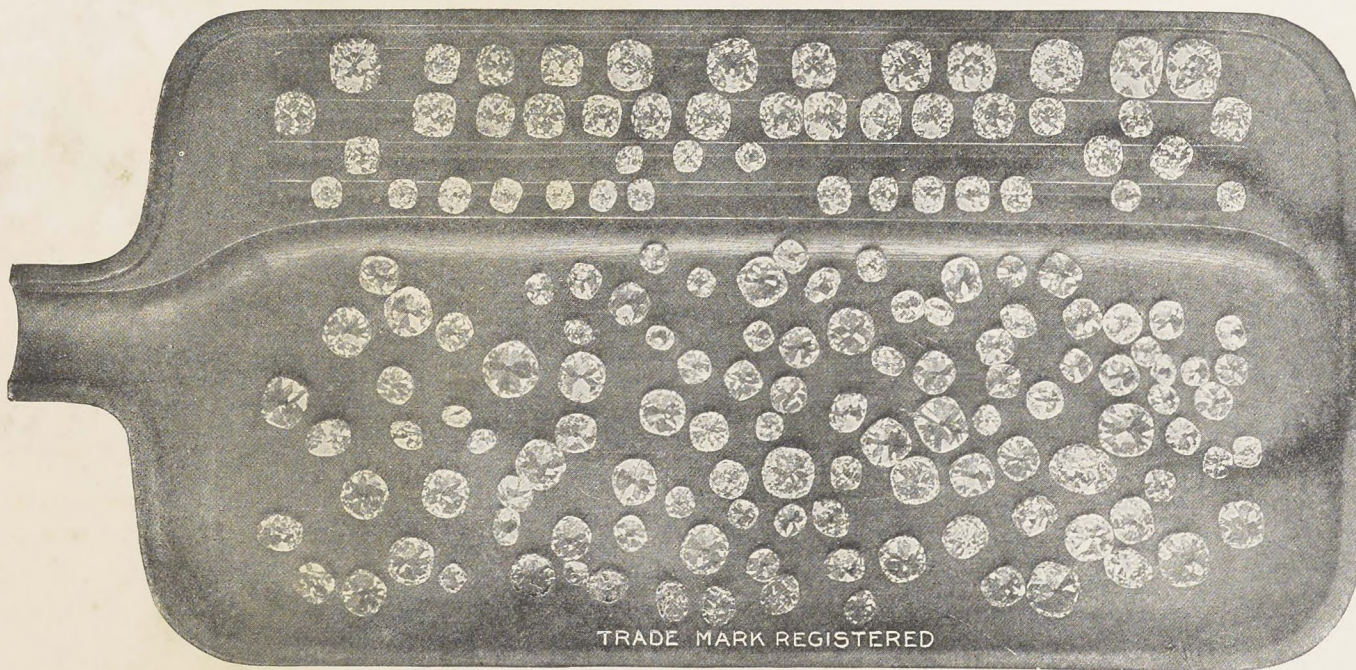
71 Nassau Street, NEW YORK

Our Trade-Mark "The Rose"



stands for Quality and Excellence

The Old Mine Diamond House



WISH TO ANNOUNCE that they have all sizes, shapes and qualities of "Old Mine" Mêleé in stock, suitable for all kinds of jobbing and repair work. Don't waste time hunting for it, but send to us when you need an "Old Mine" stone of any size.

We also make cash offers on "Old Mine" stones, second-hand diamond, pearl and antique jewelry.

CHAS. S. CROSSMAN & CO., 3 Maiden Lane, NEW YORK

Established 1880

Estates a Specialty

1883 *The Benedict's* 1908 *Silver Anniversary*



The Union for Profit

Twenty-five years ago we began to manufacture Silver-Plated Ware and Novelties with the basic idea of superior goods and close trade relations with our merchants for better mutual profits. Every year has strengthened the union of interest between us and our customers.

Round this idea of mutual benefit we have built up the largest independent silverware plant in America. Our growth is the measure of the success of the

hundreds of Jewelers' stores that to-day are featuring BENEDICT goods.

With the opening of our Silver Anniversary Year we begin a campaign of greater help for every live merchant who wishes to co-operate for quick and generous profits.

Let us show you how our idea comes into your store and works for you. It is not merchandise alone, but an active interest that stays with the goods until you sell them. It is trade attraction and profit assurance.

Write to-day and get your name on our lists

THE BENEDICT MANUFACTURING COMPANY

Makers of Guaranteed Silver-Plated Ware and Metal Goods

New York Sample Rooms, 409 Broadway

EAST SYRACUSE, N. Y.

Libbey

"THE WORLD'S BEST"
CUT GLASS

BUSINESS ESTABLISHED IN 1818

TO THE DEALER:—

The customer who comes to you for Cut Glass is half or wholly persuaded in favor of LIBBEY CUT GLASS before you have said a word.

Thanks to its unrivaled reputation as "The World's Best"—a reputation won by almost a century of experience and the most perfect plant and the best workmen in the world—LIBBEY sales require infinitely less effort and infinitely less argument than those of any other Cut Glass made.

*Be sure the name "LIBBEY" is
graven in the glass*

The Libbey Glass Co.
Toledo, Ohio

New York Salesroom, 57 Park Place

Cups and Trophies a Trade Boon

Multiplicity of Sports and Prizes—Loving Cups in High Favor—Origin of the Loving Cup Design—Some Historic Loving Cups

An important source of revenue in recent years, both for the manufacturer and the retailer, is found in the universal love of sports and the growing custom of awarding prizes in the form of creations in art metal-work—trophies, loving cups and symbolic pieces.

For formal presentation purposes, the most popular form of gift at this time seems to be the loving cup. The demand for these cups has so grown in recent years that special lines of them are produced by the leading manufacturers. Time was when these cups were so sparsely used that they were made to order; but during the past few years the loving cup has become almost a staple, and to-day forms part of every pretentious jewelry stock. This is due, in part, to the wider prevalence of the gift-giving custom, and also to the growth of out-door sports among the wealthy and pleasure-loving classes. Nor is the demand confined to the larger cities. In the smaller towns, and even in the country, the loving cup is well-known and has become a popular form of gift. Its name commends it as a token of personal regard, and it is much used by all forms of social and beneficial organizations, theatrical companies, boards of directors, school and church trustees, etc.

Cups of Special Design

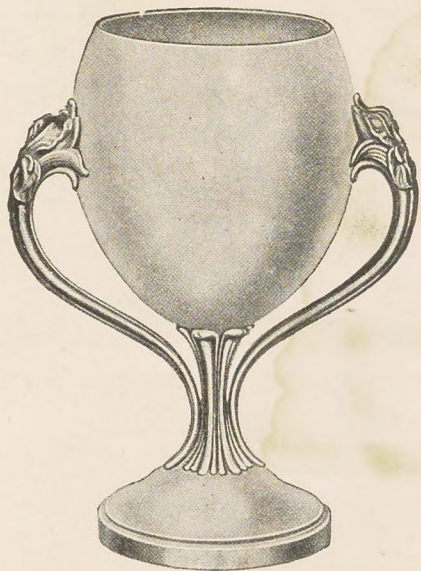
The loving cup is also much in favor with college societies and sporting clubs, many of which have had, made original designs, which they have copyrighted, a cup being given to each member on the occasion of his marriage or other important happening in his life. The desire for novelty has resulted in a great variety of designs in these cups. Some have handles of walrus tusk or buckhorn, instead of silver. The cups used by golf clubs, tennis clubs, yacht clubs, etc., are generally made to order from some special design, and these are both expensive and beautiful. Some of the cups are manufactured of silver which has been blended with copper, the alloy being admirably suited for high-class decorative work.

Origin of Loving Cups

Loving cups are made with two or three handles, the smaller cups generally with two, the larger with three. Why this vessel should be provided with three handles is a question which is much discussed and on which jewelers are frequently interrogated. It seems that there is some doubt both as to the origin of the cup and the *raison d'être* of the three handles. One surmise is that the loving cup originated in Italy, where it happened, not infrequently, that hosts stabbed their guests or poisoned them at a seemingly friendly banquet. From this was evolved a reason for the three handles. The host drank from the cup first, this act showing that the liquor in the cup was not poisoned; then, holding it by two of the handles, he passed it to his friend on the left. His two hands being occupied, he could not stab his friend; and, as his friend took one handle in his right hand, he would have been put to inconvenience to stab his host with his left hand.

Another legend in regard to the loving cup is this: King Henry of Navarre (Henry IV of France), while hunting, became separated from

his companions, and, feeling thirsty, called at a wayside inn for a cup of wine. The serving maid, on handing it to him as he sat on horseback, neglected to present the handle. Some wine was spilt, and his Majesty's white gauntlets were soiled. While riding home he bethought him that a two-handled cup would prevent a re-



currence of this. So his Majesty had a two-handled cup made at the royal potteries and sent it to the inn. On his next visit, he called again for wine, when, to his astonishment, the maid (having received instruction from her mistress to be very careful of the "king's cup") presented it to him, holding it herself by each of its handles. At once, the happy idea struck the king



of a cup with three handles, which was acted upon. His Majesty is said to have remarked: "Surely, out of three handles I shall be able to get one."

Some Historic Cups

Doubtless there are many handsomer loving cups made to-day than at any earlier period, but there are many in existence which are priceless, by reason of historic association. Some of the most noted loving cups

are the property of the various London guilds. Quite a number of these guilds have very valuable cups among their municipal regalia, though no attempt seems ever to have been made to bring together in one record a history and description of them. Some of these historic cups were known as "grace cups," and the most famous of these is the Henry VIII grace cup, which belongs to the Barbers' Company of London. With its four globular bells hanging around the outer rim, this cup might well excite the envy of even the most honest collector of silverware, for every detail of its sixteenth century ornamentation is perfect.

It is said to have been stolen, pawned and sold, yet it still remains the most prized item in the plate-chest of the company. The name of the cup is derived from the fact that King Hal was the donor, while he was also a patron, the grace cup being intended to commemorate the union of the barbers with the Guild of Surgeons. The cover carries the Tudor rose, portcullis and fleur-de-lis, the finial of the lid being mounted with the imperial crown, the English and French arms being beneath, supported by the lion and greyhound. Sometimes the cups take whimsical shapes.

The Peacock Cup

Another famous cup is the property of the Skinner Company, one of the prominent London guilds. This cup is known as the "Peacock" cup, though constructed in the form of a pea-hen. The large silver bird, with three chicks at her feet, stands on the silver badge which was formerly worn by the company's barge-master, and around it are the engraved words: "The Gift of Mary ye daughter of Richard Robinson, and wife to Thomas Smith and James Peacock, Skinners, 1632." The lady's two husband's were both masters of the company within a period of ten years. There is something whimsical in the name being perpetuated by the form of the gift, the neck of which is removable, and so the head forms the lid.

It was expected that the demand for loving cups during the present year would have surpassed all records, but possibly the depression may interfere considerably with these expectations. As it is, however, the cups will be in considerable demand, and as presentation pieces are at all times highly profitable to handle, the jewelers should not lose sight of this opportunity. There is much trade prestige in furnishing handsome cups of this character, as it brings the trade in touch with many organized bodies, the individual members of which may thus become interested in the jeweler's establishment.

New Diamond Drill

Consul General John P. Bray reports that a trial was recently held at Melbourne in the presence of representative Australian mining men of a new diamond drill, the invention of the officers of the department of mines of Victoria. Mr. Bray describes it thus:

"The leading feature of the new drill is its portability, the total weight of the machine being only 400 pounds, as compared with three or four tons—the weight of the machines now in use. The Pioneer diamond drill can be worked either by hand or motive power, being capable of boring 300 feet by the former and 500 feet by the latter process. It bores a two-inch hole, producing a core 1½ inches in diameter. It is considered that the drill will prove a valuable adjunct in developing the mining industry in this country, as it will be the means of opening up districts hitherto regarded as inaccessible, owing to the difficulties of transporting the heavy drills now in use.

Seamless Gold Rings

A Half-Century's Reputation

stands back of every ring we send out and warrants it perfect in shape, finish and metal.

We are specialists in seamless gold rings. Our facilities are the best known to the art of ring making, hence we can give you superior work at prices no higher than you would pay elsewhere for inferior goods. Then you can always depend upon everything we send out being precisely as represented. We warrant our rings plump assay always.

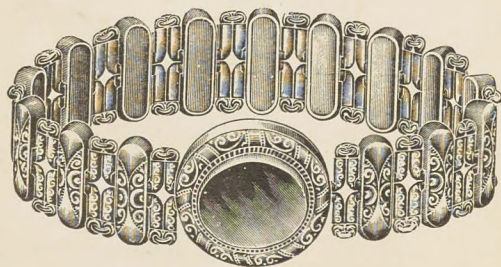
We have an exceptionally fine line of 14 K. and 10 K. Fancy Rings. Write for catalog.

HAYDEN W. WHEELER & Co.

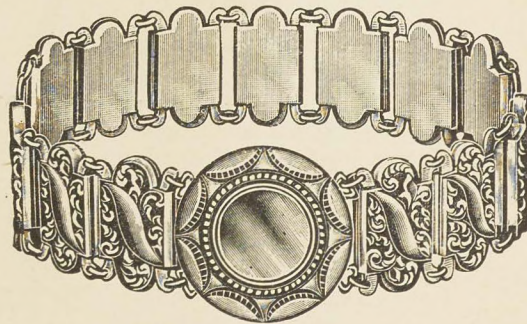
RING MAKERS

2 Maiden Lane, New York

VELVET



VELVET B



For the trade who wish to handle a cheaper adjustable bracelet, the makers of the well-known "Velvet" have produced a line to be known as "Velvet B"; will wear, will not break, and at a price that will make it a seller.

MASON, HOWARD & CO.

Factory: ATTLEBORO, MASS.

New York Office: 180 Broadway



New York Letter

Diamond Imports Increase

Diamond importers say that the tide has turned in their business, and to prove it they point to the Custom House figures. The value of the importations of precious stones at this port has more than doubled since February, and the importers say that the gain has been nearly all in diamonds. They also say that there has been a much greater gain in the importations of rough than of cut diamonds, a favorable indication for the New York cutting and polishing factories. The importations at New York of all kinds of precious stones increased from \$200,443 in February to \$389,514 in March, and to \$493,052 in April. The value of the uncut stones imported in April was \$205,821. One of the largest importers said that while the sales are slowly increasing, prices have not changed at any time and are as high now as when the market was most active.

The Great Clocks of New York

When the contract for the construction of the four clocks in the lofty tower of the Metropolitan Life Building, at Twenty-fourth Street and Madison avenue, is awarded, New York and its vicinity will have six of the largest timekeeping movements in the world. The Metropolitan's clock will have four dials, each twenty-seven feet in diameter, and each run independently of the other, because of the elevators, which are to make the forty-six-story journey through the middle of the tower. This will require the installation of four separate movements. The Colgate clock, in Jersey City, is the largest of all. It was described in detail in our April issue. Trinity's clock and chimes are comparatively modern. The movement, which cost \$3000, was put in three years ago, and took the place of an English movement brought to this country in 1855. The dials are twelve feet in diameter, and the largest bell in the chimes weighs 7000 pounds. St. Paul's is an English clock and is wound by hand. It strikes the hours, and is said to be in as good condition as it was when put in place in the early part of the century. The Hall of Records has one of the most expensive clock movements in the country. The diameter of the dial is four feet, and that is so far above the street that a glass is necessary to distinguish the time of day from City Hall Park. The cost was about \$35,000. The movement is what is known as a master, and controls all the clocks in the several departments in the building. Cooper Union has the best timekeeper in New York. It operates a system in the different offices in the building and does not vary twenty seconds in a month. The Lackawanna Railroad has a self-winding clock in its Hoboken terminal, with a dial diameter of twelve feet. It is regarded as one of the most perfect pieces of clock work of its kind in America.

New Post-Office

Plans of McKim, Mead & White, architects for the new post-office building, have been approved by the secretary of the treasury. The site was purchased of the Pennsylvania Railroad Company for \$1,660,540.14. The building will rest above the tracks of the Pennsylvania Railroad between Thirty-first and Thirty-third streets. Congress has appropriated \$100,000 for the preparation of plans, and work will be begun as soon as further appropriations are available.

A decision was handed down last month by the board of United States general appraisers, defining the classification to accrue on cameos of shell and coral. The question came down before the board in a protest filed by G. W. Sheldon & Co., of this city, who objected to the action of Collector Fowler in assessing the articles at 33

per cent. under the provision in the tariff for "shells." After considering the evidence, General Appraiser Sharretts, who writes the decision, affirms the collector in his assessment of the 35 per cent. duty on the shell cameos. The protest, however, regarding the coral cameos is sustained, and they are admitted to duty at 10 per cent. under the provision in the tariff for precious stones. The decision states that no evidence was submitted tending to show that shell cameos are known commercially as precious stones, while, on the contrary, the evidence was concurrent on the point that coral substitute for jewelry purposes was invariably known in trade as a precious stone.

Jewelers' Security Alliance

At the May meeting the executive committee of the Jewelers' Security Alliance, the following members being present, Chairman Butts, President Sloan, Vice-President Champenois, Treasurer Karsch, Secretary Noyes, Messrs. Abbott, Alford, Bowden and Brown, of the committee, the following new members were admitted:

F. H. Bartlett, Morrisville, Vt.
A. R. Campbell, Morrisville, Vt.
Herman Engel, Wilkes-Barre, Pa.
G. W. Loar & Co., Grafton, W. Va.
Steffeck & Willimovsky, Chicago, Ill.
Alex. Brown, Cleveland, Ohio.
A. & S. Esposito Co., New York City.
M. J. Buechler, Bridgeport, Conn.
Walter F. Robbins, Skowhegan, Maine.
Sigmund Wyler, New York City.
T. Lundy, San Francisco, Cal.
F. Willis Sharpe, Oakland, Cal.
H. O. Bailey, Shawnee, Okla.
L. Kamstra, Safford, Ariz.
Luckenbach & Co., Los Angeles, Cal.
W. E. Pearce, Oklahoma City, Okla.
C. H. Watson, Westfield, Pa.
Henry M. Abrams Co., San Francisco, Cal.
T. J. Bradley, Newark, N. J.
Harry Jacoby, Oroville, Cal.
Mayer & Weinshenk, San Francisco, Cal.
Guy R. Burleigh, Phoenix, N. Y.
David I. Seifert, Beaver Falls, Pa.
C. B. Graves, Hawarden, Iowa.
Cohen Brothers, Minneapolis, Minn.
Proctor & McIntyre, Valley City, N. D.
Evan's Jewelry Store, Reading, Pa.
Pacific Jewelry Company, Seattle, Wash.
Frease & Allen, Napoleon, Ohio.
Ira S. Dresbach, Tiffin, Ohio.
Taylor & Klar, Dennison, Ohio.
Parritt Jewelry Company, Des Moines, Ohio.
A. A. Everts Company, Dallas, Texas.
R. J. F. Roehm & Co., Detroit, Mich.

The following rewards of \$100 each were ordered paid: Nos. 47 and 48 to Captain John Halpin, for distribution among several members of the Chicago police force. No. 47—For the arrest and conviction of burglars who smashed the show window in the store of Chas. A. Joneson, 5915 South Halstead street, with a flat-iron while the store was open for business, and stole six diamond rings of the value of about \$1400. The robbers were arrested on December 30th, and William Bailey received an indeterminate sentence of from one year to life imprisonment in Joliet and James O'Neill an indeterminate sentence of from one to twenty years in the same prison. Frank Everett, an accomplice, was given a term of from one to ten years, and Frank Edwards, another accomplice, was given a sentence of from one to fourteen years. Five out of the six diamond rings were recovered and returned to Mr. Joneson. No. 48—For the arrest and conviction of burglars who broke the show window in the store of Dave Holtz, 4740 South Ashland avenue, on December 26th, while the store was open for business, and stole diamond jewelry valued at about \$3500. This robbery was committed by the same parties who broke the show window of Mr. Joneson, and was included in the sentence named above. Part of the goods which were stolen were recovered and returned to Mr. Holtz. No. 49—To the Infirm Police Fund of Cleveland, Ohio, for the arrest and conviction of Edward Campbell and James Livingston, who broke into the store of Knittle & Longtin, of that city, on

March 20th, and stole miscellaneous jewelry and silverware to the value of about \$700. Campbell was sentenced to the Ohio State Reformatory and Livingston was given a fine of \$25 and costs. A portion of the goods was recovered and returned.

Baker & Co., Inc., gold and silver smelters and refiners, Newark, N. J., have moved their office in this city to the sixth floor of the Cortlandt Building, Hudson terminal, with entrance at 30 Church Street. The new office has been handsomely equipped and provided with every facility for careful and prompt attention to customers.

The American Protective Eye Glass Co. has been incorporated under the laws of the State to manufacture eye glasses and optical goods. The capital stock is \$10,000.

Judge Lacombe, of the United States circuit court, has issued a permanent injunction against Isidor Berkson, A. and B. Rainness and Abel Bros. & Co., and others, doing business under the firm name of the Hold Fast Scarf Pin Guard Company, from the further manufacture, use or sale of the guard they have been making and selling under the name of "Shurolde" and which the court holds is an infringement of the Fischer patent, used by C. P. Goldsmith & Co., of this city, who charged infringement and asked for redress. The defendants are also enjoined from making or selling any other device that resembles the Fischer guard, which Goldsmith & Co. make and sell under the name of the "Hold-on-Clutch." C. P. Goldsmith & Co. are naturally elated over the decision, believing it will have a bearing on other and similar suits they have pending, claiming infringement of the Fischer patent.

Robt. H. Ingersoll & Bro., 51 Maiden Lane, manufacturers of the Ingersoll watches, have purchased the factory of the Trenton Watch Co., Trenton, N. J. The purchase includes the site, buildings, plant, patent and trade-mark right of the company. The new owners will continue the manufacture of watches of a grade similar to those previously produced in this plant.

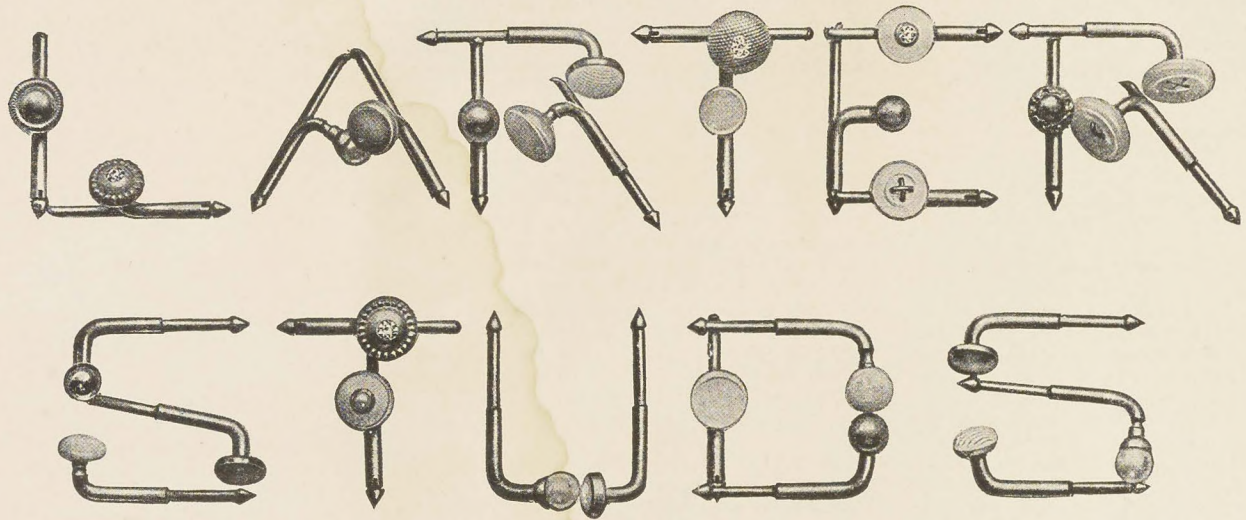
Leopold Stern, of Stern Bros. & Co., 68 Nassau Street, sailed for Europe last month on his annual visit to the markets.

H. A. Groen & Bro., who are now located at 51 Maiden Lane, have rented the building at the southeast corner of Nassau Street and Maiden Lane and will move thereto as soon as the changes are completed. The salesroom will be on the first floor, the offices and shipping department on the second, the jewelry shop on the third and the diamond cutting department on the fourth. It is stated that the firm will discontinue its up-town store.

Among those who moved into new quarters during the past month are the following:

Aikin-Lambert Co., from 33 Maiden Lane to 15 Maiden Lane; Aikin-Lambert Jewelry Co., 33 Maiden Lane to 15 Maiden Lane; H. F. Barrows Co., 37 Maiden Lane to 15 Maiden Lane; R. Blackinton & Co., 3 Maiden Lane to 15 Maiden Lane; Bliss Bros. Co., 9 Maiden Lane to 15 Maiden Lane; J. B. Bowden & Co., 1 Maiden Lane to 15 Maiden Lane; W. R. Cattelle, 7 Maiden Lane to 180 Broadway; Daggett & Clapp Co., 21 Maiden Lane to 7 Maiden Lane; Estate of O. M. Draper, 37 Maiden Lane to 15 Maiden Lane; Wm. B. Durgin Co., downtown offices opened at 15 Maiden Lane; Elgin National Watch Co., 11 John Street to 15 Maiden Lane; Ira Goddard, 11 John Street to 15 Maiden Lane; E. Howard Clock Co., 41 Maiden Lane to 84 William Street; Robert Ingersoll & Bro., 51 Maiden Lane to 45 John Street; Jewelers' Board of Trade, 170 Broadway to 15 Maiden Lane; Jewelers' Protective Union, 11 John Street to 15 Maiden Lane; Jewelers' Safety Fund Society, 11 John Street to 15 Maiden Lane; Mabie, Todd & Co., 130 Fulton Street to 15 Maiden Lane; S. K. Merrill Co., 9 Maiden Lane to 15 Maiden Lane; C. Ray Randall & Co., fourth floor to sixth floor, 7 Maiden Lane; Chas. M. Robbins Co., 13 Maiden Lane to 15 Maiden Lane; W. H. Saart Co., twelfth floor to tenth floor, 47 Maiden Lane; William L. Sexton & Co., 7 Maiden Lane to 45 John Street; E. L. Spencer Co., 9 Maiden Lane to 15 Maiden Lane; Standard Button Co., 180 Broadway to 15 Maiden Lane; Towle Mfg. Co., 41 Union Square to 15 Maiden Lane; Watson & Newell Co., 103 William Street to 45 John Street; Chas. F. Wood, & Co., 1 Maiden Lane to 15 Maiden Lane.

(Continued on page 945)



Hammering at Facts

If you have not purchased a line of Larter Shirt Studs for your stock, you have overlooked the most salable article of its kind in the jewelry market.

The Larter Shirt Stud is especially adapted for the coat shirt, soft bosom shirt, in fact, any style of shirt made, and all studs have stamped on the barrel of each our registered trade-mark, which is a guarantee that a new one will be given if an accident happens.

Prices are so attractive that no retail jeweler can afford to be without a line of these goods in his stock.

Progressive jobbers carry a good line of 10 K. gold and 14 K. gold filled Larter Shirt Studs; but if your jobber does not have them, let us know by postal and we will tell you one that does.

LARTER & SONS

21-23 Maiden Lane
NEW YORK CITY

Trade-Mark



Registered in U. S. Patent Office

Pacific Coast Representatives

A. I. HALL & SON
717 Market Street
San Francisco, Cal.

New York Letter

(Continued from page 943)

F. D. Gould, wholesale jeweler, formerly of Watertown, N. Y., has moved to this city, where he has suitable quarters at 71 and 73 Nassau Street. Mr. Gould will continue his wholesale business to better advantage in his new location.

C. G. Alford, of C. G. Alford & Co., 11 John Street, according to his annual custom, spent the month of May fishing at Saranac Lake, N. Y. As a fisherman, he was exceptionally successful this year, being credited with a capture of some of the largest trout ever caught in the lake.

Black, Starr & Frost furnished the handsome loving cup presented to E. C. Benedict, formerly commodore of the Seawanhaka-Corinthian Yacht Club. The cup is a massive one of sterling silver with the time-honored three handles. The design accords with the purpose of the gift, and the entire piece is executed with great skill.

The Jewelers' Board of Trade has completed the removal of its office and equipment to the new Silversmiths' Building, 15, 17 and 19 Maiden Lane. The growth of the work of the board in recent years has been very great, and the new quarters will afford them the necessary facilities to cope with their increased responsibilities.

The Jewelers, 24-Karat Club now occupies its new quarters on the third floor of the Reisenweber Building, 57 Maiden Lane, and the removal inaugurates a new epoch in the brilliant social history of the club. Half of the floor space will be devoted to social purposes, being provided with a capacious dining hall, while the other half will be used as club rooms. The quarters are handsomely furnished and provided with every convenience for the members. The rooms were informally opened on May 11th, when a luncheon was given in the new dining-room. President Larter was present to welcome the guests and was congratulated on the beauty and excellence of the new quarters. At a special meeting of the club, held last month, it was decided to change the date of the annual outing from September 12th to August 1st, as a number of circumstances made the change advisable. The outing will be held at Pleasant Bay, Long Branch, N. J. The boat will start at 9 A. M., somewhat earlier than in previous years, in order that more time may be available for the athletic events.

Encouraged by its past success, the Jewelers' Bowling League is planning for a larger programme and wider membership during the coming season. It is stated that the league will include several more teams than last year and that many additional prizes will be offered. The schedule for the season is now being arranged.

The trade of the city was notified last month of the operations in the jewelry district of a clever female thief, who worked successfully the substitution game. Under the pretext of examining diamond rings with a view to purchasing, she succeeded in several instances in substituting an imitation for the genuine stone. She is described as being about five feet eight inches in height and weighing about 130 pounds, with light brown hair and very white complexion. There is a slight cast in the left eye and her fingers are long and tapering, showing nicotine stains. She is neat in dress and pleasant in speech. Later information came from other cities of a similar trick being worked successfully, and there seems a likelihood that the perpetrator was the same in all the instances reported.

A prominent member of the trade recently passed away in the person of Adolph Ludwig, senior member of the firm of A. Ludwig & Son, 75 Nassau Street. The deceased was born in Germany sixty-one years ago, and learned the jewelry trade in that country. He came to this country while still a young man and started in business for himself some thirty years ago. The deceased was a prominent member of the Masonic order and the Odd Fellows. It is stated that the business will be continued by his sons under the old title.

Theo. A. Kohn & Son, 321 Fifth Avenue, have incorporated under the laws of the State, with a capital of \$100,000. The incorporators are Theo. A. Kohn, Albert M. Kohn, Emil W.

Kohn, members of the old firm, and also Robt. D. Kohn and John J. McGeary.

An article in the recent big anniversary edition of *The World* told in a most interesting way the story of the "Ideal" fountain pen, which it traced from its dream origin in the brain of the inventor, L. E. Waterman, to its present material perfection and universal popularity. The story of its success was thus summarized: "In twenty-four years the business has progressed from desk room in the rear of a cigar store in one of the old office buildings in Fulton Street, New York, to the occupancy of three large buildings covering 31,000 square feet of floor space, at what is now universally known as 'The Pen Corner,' at the corner of Broadway and Cortlandt Street, New York. The output has grown from six dozen pens in 1883 until, in 1907, the value of pens sold was \$2,500,000. Here indeed, then, is an ideal and its realization."

Chas. L. Trout & Co., 2 Maiden Lane, furnished the unique key here illustrated, which was used at the formal opening of Luna Park, Coney Island, on May 16th, which was a gala occasion on the island. The opening was attended by a large multitude. Speeches were made by those connected with the park and a wealth of music added to the enjoyment of the occasion. The key is 14 karat solid gold, set with diamonds, and is a prettily designed and unique piece of jewelry. It was used by Mr. Erlanger, one of the heads of the theatrical trust, in formally opening the park, of which he is part owner. The key was retained by him and is a much-prized addition to his collection of art curios.

M. J. Averbeck, Walter G. King, and Burnham W. King, are up in the wilds of Quebec province on a fishing and hunting trip. The trip had been planned for some time past by the Kings, and Mr. Averbeck was persuaded to join the party at the last minute.

Starting the Largest Clock

The largest clock in the United States was set going last month on the top of the Jersey City factory of Colgate & Co. Mayor Wittpen pressed the button that started the clock. The clock faces New York from the Jersey shore, and is visible for many miles. Heretofore the Westminster dials on the Parliament buildings, London, have held the record abroad, with a diameter of 22½ feet and an area of 398 square feet. In this country the dials on the Philadelphia City Hall are the largest, measuring 25 feet across and having an area of 490 square feet. The Colgate clock has an area of more than twice either of these. The dial is 38 feet across and is area is 1134 square feet. The minute hand is 20 feet long, and, with its counterpoise, weighs nearly a third of a ton, while the ponderous weight that moves the mechanism will weigh just 2000 pounds, and the whole clock approximately six tons. Across the dial twenty men of average size could stand shoulder to shoulder. The big timepiece is unique in the way it is made visible at night. Instead of the usual transparent dial lighted from behind, the hands will be outlined with incandescent lights. The tip end of the minute hand travels twenty-four inches every minute, or over a half mile a day. Writing to the *Sun*, a correspondent says: "I have read a statement in the newspapers saying that the large clock on the North River Colgate Building is the largest in the world. I have not seen this contradicted thus far, so I venture to remind you that there is a still larger one on the tower of St. Rombaud, at Malines (Mechlin) in Belgium, which is forty-nine feet in diameter.

Trade Complaints of Clock Company

We are in receipt of several complaints from subscribers in regard to an concern entitled The Knickerbocker Clock Co., which described itself as designers of clocks for artistic homes, 901 Lexington Avenue, Brooklyn, N. Y. The following is typical of all:

"Ed. KEYSTONE:—We are 'stung' and would

like to inquire if you know anything about the Knickerbocker Clock Co. We are enclosing some advertising matter we received from them and also a receipt showing that they received our check; also an answer to one of our letter inquiring as to the reason why we did not get our clock. We would like to know if you have any knowledge of this firm. The last letter we wrote them was returned to us marked "Unclaimed," as you will see. We sent them a check on March 24, 1908, and their reply to our letter was dated April 20th, so they must have 'flown' very recently. If you can expose this firm, it may serve some of the other jewelers. A good many of the trade in this town received this same proposition.

Yours truly,

"CLARK & CONKLIN."

"Casinovia, N. Y."

As other jewelers had sent complaints similar to the above, we proceeded promptly to learn what we could in regard to this company. We find that the Knickerbocker Clock Co. was the business title used by one Mortimer Warren, a person of about 35 or 40 years old, about whom we could learn but little. On May 21st the city marshal took possession of all there was in his place on an attachment for the claim of \$237. It is said that he owes a number of people. We have been unable to learn anything of his present whereabouts.

Summer Girl and Her Jewelry

The smart woman must wear jewelry; it need not necessarily be expensive, though it must be in good taste and it must be odd and unusual. The ingenious woman goes through the family trinket box and selects those things which can with only small expense be made into attractive modern jewelry. What family jewel box does not contain odd cuff buttons, stray earrings, bits of chains, broken breast pins, parts of watches—all of which seem utterly useless and hopeless, yet are cherished for association's sake?

The old-time earring has perhaps the greatest possibilities. A most exquisite necklace with a long pendant has recently been made of two bracelets and a pair of earrings, the latter hanging almost to the shoulder. The design of this set was unique—bunches of grapes about an inch long made of thousands of tiny pearls strung on gold hair wires, and the workmanship was so exquisite that when the pieces were taken to a well-known jewelry firm the owner received an offer of \$3000 for them. The bracelets were made into the necklace and the earrings were used together as a deep pendant. The result was more than beautiful; yet for years the treasure had lain idle in an old box.

A pair of coral earrings is now being worn on a short string of coral beads. They matched perfectly in color, and the two carved rosebud earrings, with their numerous tiny gold balls and pointed dangles, made a necklace which could not be bought in a shop.

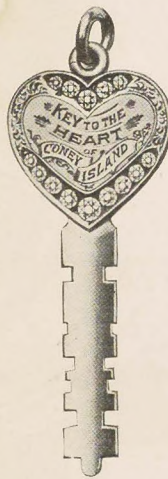
The fad of wearing a touch of black jewelry with white gowns is a noticeable one. Here is an opportunity for some of the old jet jewelry. Much of it is combined with gold; other styles with pearls. A woman who prides herself on wearing things distinctly novel and original has had small pale pink corals combined with a handsome old jet set, and the result is charming.

An old-time setting of heavy gold or rough silver may be modernized by having jade or dark blue stones inserted in the original settings.

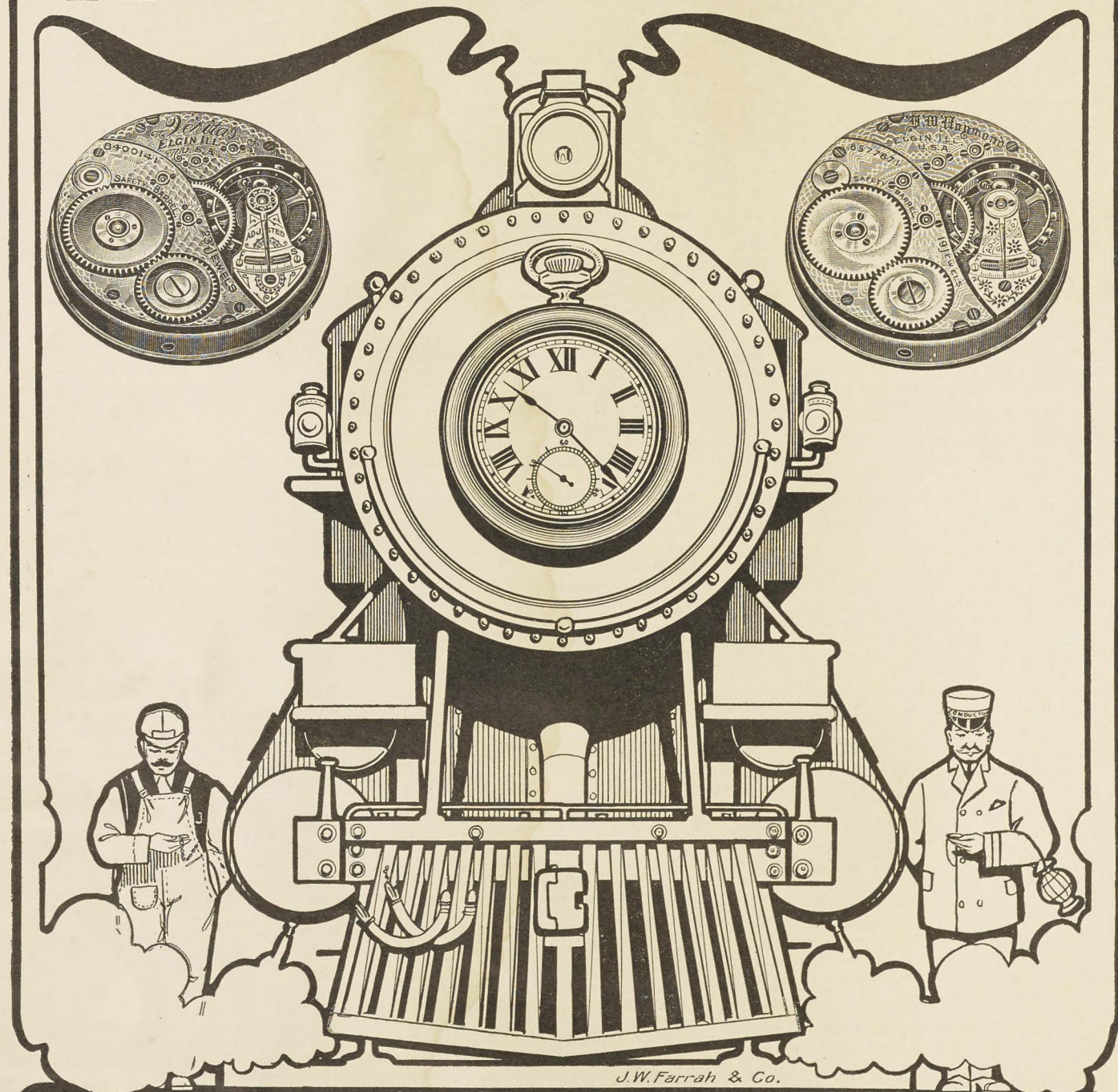
As large horseshoes and crescent-shaped pins are so fashionable just now for the neckpiece or for the back of the collar, the large loop earrings, at one time so generally popular, can, by the mere appliance of a pin, be made into the handiest kind of brooches.

And what box of old jewelry does not contain a few long, broad bar pins, the inevitable "breast pin," the kind which appeared on Sunday with a bit of lace and the best black silk? Waste no time in appropriating one of these bar pins. It may be rather heavy looking, but with etchings of black or with black enamel designs it is quite "the thing."

The sash loops of knitted gold, some plain, some set with stones, which children wore twenty years or more ago, are appearing now as bracelets.



RAILROAD WATCHES



We keep our stock of Elgin R. R. grades moving. The movements are always new from the factory. You can depend upon receiving from us every movement ready for service. Our catalogue illustrates and prices all grades.

BENJ. ALLEN & CO., Chicago



WESTERN BUREAU OF THE KEYSTONE
ROOM 1201 HEYWORTH BUILDING
CHICAGO, ILL., May 26, 1908.

Merchants Boom Chicago Market

On May 18th a committee of prominent Chicago business men, made up from among the membership of the Chicago Association of Commerce, left on a tour of Michigan and Ohio in the interests of trade extension for the great central market. Fourteen different lines of industry were represented by the personnel of the delegation. The "trade boosters" stopped at Muskegon, Grand Rapids, Kalamazoo, Bay City, Saginaw, Flint, Lansing and Jackson, Michigan, and Toledo and Tiffin, Ohio. John A. Cox, manager of Benj. Allen & Co., represented the jewelry interests of Chicago, and made several addresses before reception committees and trade organizations of the cities they visited. Speaking at Bay City, Mich., Mr. Cox, among other things, said: "This seems just like going next door to shake hands with an old neighbor and to say, 'The pleasure is ours.' We bring greetings from the Chicago Association of Commerce, and congratulate you, gentlemen of Bay City, and the great State of Michigan, on the fame you have attained by the deeds of your great men and by the high position you occupy in science, art, culture and commerce. Let it be understood at the outset that we are not solely on a pleasure excursion, although since leaving Chicago we have found a great deal of pleasure and enjoyment in meeting the enterprising and prosperous business men of the various places we have visited. We are here to acquaint you with the wonderful advantages Chicago possesses as the great central market of the West. We want to demonstrate to you that in whatever line of human industry or commercial enterprise you may be interested, you will find there a greater variety of all lines of goods in stock and on display than can be found in any other market in the country, if not in the world. Chicago does not depend alone on her 2,000,000 people for her prosperity. We are firmly convinced by the firm steps of reason and not the airy flights of fancy that your prosperity means our prosperity, that our interests are mutual and reciprocal. When you, with your wonderful surrounding resources, are on the high road of business prosperity, that fact sends a pulsating throb through the commercial center of Chicago, and that is one of the reasons why we are here—to learn how best we can co-operate with and serve you."

Jobbers' Association

Chicago jewelry jobbers have completed a jobbers' association, which will be known as the Association of Wholesale Jewelers of Chicago. Such an organization has been in contemplation for several years, but not until the past month did the sentiment in favor of such an organization crystallize into any definite shape. The following officers were elected: B. C. Allen, of Benj. Allen & Co., president; C. H. Knights, of C. H. Knights-Thearle Co., vice-president; A. W. Sproehnle, of Sproehnle & Co., secretary, and H. W. Hahn, of H. F. Hahn &

Co., treasurer. The following were elected directors: Claude Seymour, Lem Flershem, Adolph Hirsch and A. C. Becken. As outlined in a recent issue of THE KEYSTONE, it is the intention of the jobbers here to have the local association serve as a nucleus for a national jobbers' association. Cincinnati, St. Louis and Detroit jobbers have similar local organizations. The Detroit association has already called a meeting of jobbers throughout the country for June 10th at Detroit, and this meeting gives promise of being attended by prominent jobbers from all jobbing centers. The Chicago organization will send representatives, but its personnel has as yet not been made up.

Notable Business Directory

A special advance edition of the new membership directory of the Chicago Association of Commerce, limited to 1000 copies, is now in the hands of the associations campaigners, and being effectively used to promote the association membership canvass. This special edition of the best trade directory ever published in any city will give way to a revised and corrected edition of 10,000 copies. The book has an alphabetical classification of names, of trades, and of all members under their respective trades, together with descriptive data. The perfected and permanent edition will contain all telephone numbers, and the attention of Chicago jewelers who are members of the association is called to the fact that if their telephone number has been changed since the last trade directory was published, or if it was incorrectly quoted in the previous edition, that they notify the business manager of the association at once.

News from the Trade

G. V. Dickinson, general manager of the Elgin National Watch Company, entertained the members of the industrial committee of the Chicago association the early part of the month, by taking them in a special car to Elgin and escorting them through the company's factory. The members of the committee were also the guests of the company at luncheon.

Gustave Becker, of Murfreesboro, Tenn., who has been attending the Northern Illinois College, returned late in the month to his home with the degree of Doctor of Optics and will open optical parlors in connection with his jewelry business.

The Meyers Optical Co. has been incorporated at Rock Island, Ill., with a capital stock of \$5000.

Of seven optician applicants for registration by examination before the Oregon State board recently four were successful, three of these being Northern Illinois graduates.

N. Roff has opened a jewelry store at 4715 Ashland Avenue, this city.

A. J. O'Brien, of Ashland, Wis., sustained a \$1000 fire loss early in the month. His store caught fire from a lamp explosion.

The Jennings Bros. Mfg. Co., manufacturers of metal goods, have removed from the Silver-smiths' to the Heyworth Building.

The New England Watch Co., Waterbury, Conn., announce that their Chicago office will be discontinued on July 1st, and request that all orders and other communications to be addressed to their office in Waterbury. The traveling force connected with the Chicago house will continue to visit the trade as heretofore.

F. E. Kvasnicka, a prominent jeweler of southwest Chicago, located at 603 Blue Island Avenue, was assassinated on the night of May 22nd, near North Judson, where he owns a country home. Albert Rowbick, a farm hand employed on the murdered jeweler's farm, has been indicted for the murder. Kvasnicka, who was prominent in Bohemian organizations, was on his forty-acre farm, which he was getting into shape to receive his wife and three children, who were to spend the summer there. Late in the night his assassin fired from ambush in his barnyard, and he died a few hours afterwards. In an ante-mortem statement made to his wife and several intimate friends, he accused Rowbick, his former employee, explaining that his supposed assassin had become angered at him because he discharged him. A large delegation of prominent Bohemians attended the funeral, which was held the following Sunday. Interment was made at North Judson.

C. L. Hoefler, watchmaker, formerly located at 151 Wabash Avenue, has accepted a position as foreman with the Nanz Clock Company, New York.

Samuel Schutz and Morris B. Schutz have withdrawn from the jobbing jewelry firm of Meyer, Joseph & Co. Their withdrawal will not affect the firm name.

The jewelry store of H. J. Flower, 3845 State Street, was entered by burglars late in the month and \$500 worth of jewelry taken.

The jewelry jobbing firm of F. C. Happel & Co., which recently went into bankruptcy, has effected a settlement with its creditors on a 65 cent basis and paying the expenses during the period of insolvency. The senior member of the firm announces that the force will remain the same, with the exception of Frank Happel, who has severed his connection with the firm.

Will Andersen, of Juergens & Andersen, suffered a three weeks' illness during the past month, but is again attending to his regular duties.

Dr. C. F. McIntyre, of Farmland, Ind., a recent graduate of the Northern Illinois College, has opened a refracting office at Arcanum, Ohio.

B. F. Anderson, the well-known jeweler, of New Castle, Nebr., was receiving congratulations over the arrival of a son.

C. B. Graves, of Hawarden, Iowa, recently moved into his new store, which he has equipped with new fixtures. He has added an optical parlor and a fully equipped repair department.

Wm. Alister, of Norris Alister & Co., accompanied by Mrs. Alister, spent a week at Oconomowoc, Wis., during the past month.

A. Kuckuk, the well-known jeweler, of Shawano, Wis., was a welcome caller and buyer in the great central market early in the month.

Wm. F. Plambeck, the well-known dealer in watches and diamonds in Denver, Colo., was in Chicago early in the month on business.

W. A. Elliott, general manager of the Adelphi Silver Company, of Brooklyn, N. Y., was in Chicago for several days early in the month, introducing to the trade S. E. Dickson, who will be the new western representative of this company.

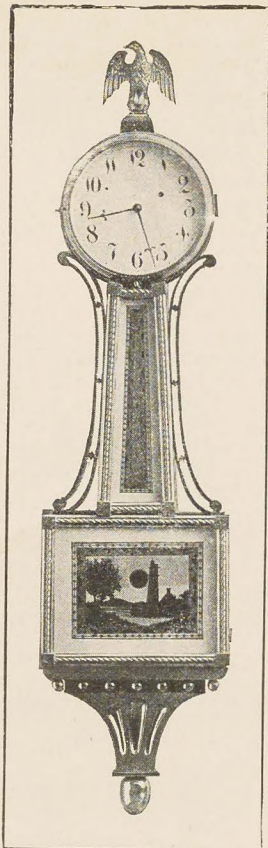
George H. Thomas, western representative of the Shepard Mfg. Company, has the sympathies of the trade in the death of his brother, which occurred May 21st, in Brooklyn, N. Y. Mr. Thomas was on his regular trip, and received the news of his brother's death at St. Louis. He left immediately to attend the funeral.

Wolf Bros. have rented additional space in the Rector Building and will add a new front.

Henry E. Volkman, of Kankakee, Ill., was on the local market early in the month. He has admitted his eldest son to partnership, and the firm will hereafter be known as Henry E. Volkman & Son.

A. G. Schwab, of the well-known firm of A. G. Schwab & Sons, Cincinnati, spent several days in the city, combining business with pleasure.

(Continued on page 949)



CORRECT REPRODUCTIONS of
the famous

"WILLARD" CLOCKS

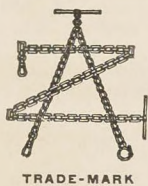
Originals were made in
Massachusetts during the
early part of the Nineteenth
Century.

Something Unique

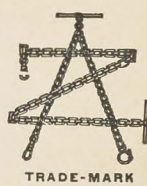
for your store, and of a de-
sign and quality to appeal
to your cultured and dis-
criminating patrons.

SEND FOR BOOKLET AND TRADE PRICES

KILLAM & CO., Pawtucket, R. I.



CHAINS



If you wish to infuse life and salability into your
chain stock, the

A & Z LINE

will serve your purpose exactly.

Experience has proved that for high quality,
moderate price and constructive merit there are no
chains on the market that jewelers can handle with
so much satisfaction.

Send for a selection and see for yourself

A & Z CHAIN CO.

Makers of $\frac{1}{10}$ Gold Filled Chains

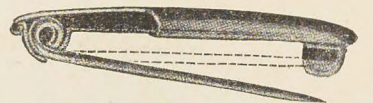
9 Calender Street, PROVIDENCE, R. I.

NEW YORK

SAN FRANCISCO

CHICAGO

The Only Exclusive Chainmakers for the Retail Trade



THE DORAN Collar, Veil and Tie Pins

Patented Aug. 16, 1904

MADE WITH THE MOST PERFECT JOINT
AND CATCH EVER INVENTED

In rolled-gold plate, all sizes,
and a variety of patterns and
finishes.

The pin stem is held in a
seamless cup, and rolled-plate
front is closed on.

No Riveting No Soldering

If a pin should break, we will
exchange it for a new one.

Samples, Prices and Booklet
on application

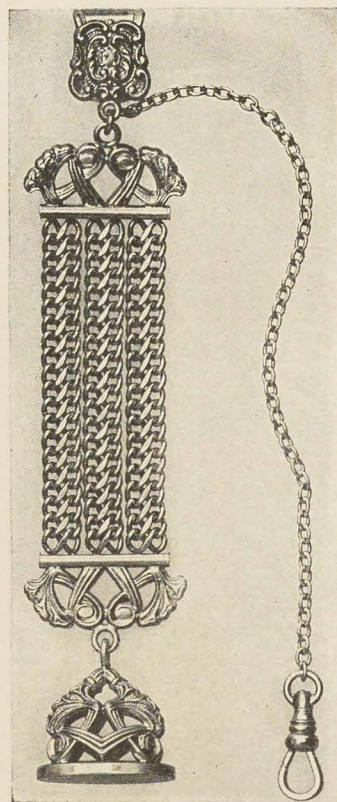
James C. Doran & Sons

Manufacturing Jewelers

Doran Building

Providence, R. I.

Mr. Retailer:—



If you want something that
will satisfy your customer and
will be exactly as represented
in regard to quality and work-
manship, demand that your
jobber carry a line of

Freeman's Roller Fobs, Chains and Bracelets

We also make a nice line
of **Lavalliers and Jewelry**,
something that is

UP-TO-DATE

in every way and that is call-
ing the attention of the trade
as our orders show.

B. S. FREEMAN CO.

Chicago Office, J. D. EDWARDS
Columbus Building

Attleboro Falls, Mass.

Chicago Letter

(Continued from page 947)

S. E. Prince, northwestern traveler for the Reed-Bennett Company, Minneapolis, was in the city for several weeks last month enjoying a vacation.

Wm. Ullrich, of the well-known firm of Ullrich Bros., Evanston, Ill., has opened up a retail store at 995 Milwaukee Avenue, Chicago.

Mr. Greenwood, of the firm of Fish & Greenwood, Reedsburg, Wis., was a buyer on the local market the past month.

C. D. Gardner, the well-known jeweler, of Manistee, Mich., was on the Chicago market early in the month. While here he met his wife and daughter, who have just returned from an extensive stay in California.

Theo. Wolff, the well-known jeweler of Norway, Mich., called on the local trade early in the month and announced that he had sold his store in Norway to Mr. Zimmer. Mr. Wolff announced that he would take a well-earned vacation this summer and open up a store in the fall either at Los Angeles or Pasadena, Cal.

Clifford V. Bates, John W. Harris and F. Benjamin are the incorporators of a company recently licensed to do business in the State of Illinois. The corporation will be known as the Elk Button Watch Company, and the capital stock is given as \$30,000.

Wm. A. Fay, the genial representative of the John T. Mauran Mfg. Co. of Providence, R. I., returned early in the month from a successful business trip to the East and South. Last week he left on his regular trip to the Pacific coast.

Henry Pfordresher, the well and favorably known western representative of the Geo. L. Brown & Co., chain makers, returned last week from an extensive trip through the West and Northwest.

The trade has been notified that the jewelry firm of G. W. Flanders & Son, formerly of Kalamazoo, Mich., is now located at Niles, Mich.

W. X. Brown, formerly traveler for Scott Bros. Co., of Chicago, has accepted a position as traveling representative of the Woodstock-Hoefer Watch and Jewelry Company, of Kansas City.

J. J. Ragatz, who for seventeen years has conducted a retail jewelry store at Prairie du Chien, Wis., has admitted his brother, E. J. Ragatz, of Marinette, Wis., to a half interest in the business. The new member of the firm was formerly in charge of the jewelry department of the Lowerman Bros. Company, at Marinette.

W. J. Dunn, representing Arnold & Steere, and Wm. A. Fay, representing the John T. Mauran Mfg. Co., have removed their offices from the John Church Building to room 405 Columbus Memorial Building.

M. F. Barger & Co., the well-known firm of watch jobbers, are now located on the ninth floor of the Heyworth Building.

John R. Lilja, diamond buyer for Benj. Allen & Company, will return early in June from an extended trip to the diamond marts of London and Amsterdam, where he went to replenish the diamond stock for his company.

H. F. Hafstrom, of Donovan, Ill., was in the city the early part of the month buying stock for a new store, which he will open at Donovan.

J. F. Winger, of Walnut, Ill., was a buyer on the local market last week.

E. L. Peterson, of Plymouth, Wis., was a buyer in the great central market for a few days the middle of the month.

Miss Fannie Curran, formerly in the jewelry department of The Fair, has accepted a position as assistant buyer for Chas. Stevens & Bro.

Miss Hill, formerly jewelry buyer for Hillman's, is now acting in the same capacity for Mandel Bros.

James J. Burke of the Brooks Jewelry and Optical Co., of St. Louis, was in the city for several days last week on business.

The jewelry store for several years conducted by E. L. Boucher, at Clarion, Iowa, has been sold to Moreley & Pitts, two experienced watchmakers and jewelers. Mr. Moreley was formerly a watchmaker for Mr. Beach, at Aikley, Iowa.

H. I. Robinson, of Independence, Iowa, has sold his stock and fixtures to C. G. Herrick, who will hereafter conduct the business.

Albert L. Haman, well-known wholesaler, of St. Paul, Minn., called on the local trade early in the month.

Ben Linz, of the well-known firm of Linz Bros., Dallas, Texas, was a very welcome caller at the Chicago office of THE KEYSTONE early in the month.

William N. Boynton, of Manchester, Iowa, one of the oldest and best known jewelers in that State, called on his many Chicago friends in and out of the trade early in the month.

Henry Ritter has sold his stock and fixtures at 3150 South State Street to Louis Usselmenn, and will remove to South Dakota. Mr. Usselmenn will continue the business.

A hurried meeting of the executive officers of the Illinois Retail Jewelers' Association was held in this city May 7th. All the executive officers were present. Only routine business was transacted. The State convention will be held in September.

Death of Loren L. Boyle

We record with much regret the death of Loren L. Boyle, western representative of this journal, which occurred at his home, in Chicago, on May 19th. The deceased had been in ill health



LOREN L. BOYLE

for some time and had spent the winter in southern California in the hope that he might regain his strength. He seemed, indeed, to be much benefited by the climate, but his return East was followed by a sudden collapse, from which he failed to recover.

Loren L. Boyle was born February 1, 1853, at New Bethlehem, Pa. His father was the

Rev. John J. Boyle, a very prominent Methodist clergyman and a member of the Erie and Missouri Conference of the Methodist Church. When Mr. Boyle was seven years of age, the family moved to St. Joseph, Mo., where he received his early education and where he first started in business for himself by establishing the Saturday *Chronicle*, a weekly newspaper, of which he was the owner and publisher, and which was later issued as a daily. In 1878 he decided that he would retire from the newspaper business, and connected himself with the firm of Baldwin & Co., of St. Joseph, Mo., with which house he remained for several years as traveler. He covered their western territory, and made numberless friends among the trade. In 1893 he accepted the position of western representative of this journal, with headquarters in Chicago, and continued the connection until the time of his death.

In many respects his character approached the ideal. A devout and thoroughly consistent Christian, his steadfast adherence to the principles he professed, and his plain, wholesome manner and close attention to work, won for him the love and respect of all those with whom he came in contact. He is survived by a widow and one daughter, Ally. His mother, Mrs. Sara Boyle, who is now 83 years of age, is still living in Trenton, Mo. One brother, Benjamin Butler Boyle, of New York, and one sister, Mrs. W. E. Austin, of Trenton, Mo., also survive him. Funeral services were held at his home, May 21st. The remains were taken to Trenton, Mo., to be interred in the family burial lot, where one child is buried.

Among the floral tributes was a beautiful remembrance from the Chicago Jewelers' Association. This was the first time that such action was taken by this organization (and it is the oldest trade organization in Chicago) out of respect for the memory of one who was not a member of the association.

The National Convention at Cincinnati

ED. KEYSTONE:—It is utterly impossible at this writing to give the exact programme for the second annual convention of the American National Retail Jewelers' Association, at Cincinnati, August 4th to 7th; but the following is a synopsis of it, and we will promise the entire programme in the July KEYSTONE. The following speakers are looked, which assures a programme well worth while:

Congressman E. B. Vreeland, on "Legislation That Affects the Jewelry Trade."

A. L. Sackett, on "Retail Organization and Its Benefits to the Manufacturer."

Mr. Duncan of the Waltham Company, "Illustrated Lecture on Watch Construction."

J. Rowland Stebbins, on "Salesmanship."

Besides these, there are several to be selected. It is the purpose of the national officers to reserve ample time for the discussion of popular topics, rather than crowd the programme, and we believe this will be agreeable to the trade.

The Cincinnati association have notified us that they are planning trips to a number of the different beauty spots of Cincinnati, and it is safe to say that any one that goes to Cincinnati will be well looked after.

The exhibit will be a splendid feature this year, and you will be on the same floor as the convention, thus facilitating matters greatly. The convention, exhibit and headquarters will all be at the Hotel Sinton, which is one of the finest and most commodious hostleries in the whole country, and must be seen to be fully appreciated. It is extremely homelike and the rates are reasonable, considering the service and we would advise the attending delegates and visitors to make reservation in advance and stop at headquarters.

Everything points to a successful convention and a good attendance. The States are putting forth every effort for new members and are meeting with no small amount of success. New members are being added by the score, and the next annual meeting will prove the American National Retail Jewelers' Association a pronounced success.

The work of our hands has produced a new association in Illinois, reorganized the South Dakota association and a meeting is called for Virginia at Richmond on June 18th for the purpose of organizing there.

Thus the good work goes on; but let us not forget, brother retailers, that the fight is still on. To win, we must apply the principles of organization to our everyday business: "Stand by those who stand by us"; "Boost price-protected goods"; patronize the jobber who "plays fair," and give the mail-order manufacturers the cold shoulder.

If we will put these principles into practice, it will go a long way toward righting many of the wrongs which now assail us.

Let us be of good cheer; let every retailer get the organization spirit, and don't fail to come to Cincinnati August 4th to 7th, 1908.

Fraternally yours,

I. M. RADABAUGH,

Secretary American National Retail Jewelers' Association.

Tennessee Retail Jewelers' Association

The annual convention of this association will be held in Chattanooga on July 7th, 8th and 9th, in connection with the annual meeting of the State optical society. The jewelers' association will meet on the afternoon of the first day and afternoon of the last day. The evening of the 7th and afternoon of the 9th will be devoted especially to the entertainment of the visitors by the members of the trade in Chattanooga, who are preparing an attractive programme for the occasion.

"I can suggest nothing to improve The Keystone. It's the very best trade paper on earth, and I could not get along without it in business."
—G. A. Kropp, Jeweler, Gaylord, Minnesota.

North Carolina Retail Jewelers' Association

The third annual meeting of the North Carolina Retail Jewelers' Association was called to order by President R. C. Bernau, of Greensboro, in the rooms of the Chamber of Commerce, Raleigh, on May 14th. Mayor James I. Johnson welcomed the jewelers on behalf of the city. In the course of his address, he paid tribute to the spirit of the time, as follows:

"This is an age of organization. All classes of our citizens are banded together—our farmers, our merchants, our mechanics, our laborers, our physicians our lawyers, and our bankers—all have their associations and societies, and it is well that it is so, for not only is there strength in union, but with interchange of thought and ideas benefits not only the members themselves, but also all others with whom they come in contact."

The mayor's address was responded to in appropriate terms by President Bernau.

A number of letters on various subjects were next read and acted upon by the organization.

President Bernau then addressed the association, as follows:

"Our association is celebrating to-day the second anniversary of its birthday, and I am glad to see before me faces that were not present when this body was ushered into the world. The question naturally arises: Was there any excuse for this event? Would it have been better for us not to have been born? We hope that our association may accomplish great good for every member, deal a deathblow to dishonest practices, and bring back the jewelry business to the high plane it once stood upon."

Mr. Bernau then proceeded to review the work already done by the organized trade. In doing so he produced an advertisement of one of the American watch case companies clipped from a German paper, in which it was stated that the watches "would be sold only to watchmakers." This he attributed to the influence of organization both here and in Germany. He also referred to the fact that in the mail-order catalogues American watches were now quoted at at least 10 per cent. above the list. He advocated such a change in the national stamping law as would prevent the stamping of the words "solid gold" on any article which assayed less than 10-karat gold, or preferably that articles of gold should be stamped with the karat mark, omitting altogether the use of the word "solid." He commended the action of some of the silverware factories, which have announced that they will sell to the trade only, and hoped that some of the clock manufacturers might be induced to act likewise.

Reverting to the subject of organization, he said:

"There is one thing this organization has brought about that can hardly be estimated in dollars and cents, and that is, greater harmony among the jewelers. We come here, meet each other and find, to our astonishment, that the other fellow is not so bad after all; that he has the same ideas that we have; that he wants to help to reform things so we can make a better living just as much as we do, and some of us become real good friends."

W. H. Jones, of Durham, and T. W. Blake, of Raleigh, also addressed the meeting. A committee was then appointed to nominate officers for the ensuing year, the committee comprising C. E. Patrick, W. H. Jones and D. R. Jolly.

The following resolution was unanimously adopted:

"Resolved, That we shall favor such an amendment to the stamping law as will prevent the stamping of the words 'solid gold' on any article less than 10 karat."

The meeting was then adjourned for dinner, to be resumed at 7 P. M.

The dinner took the shape of a barbecue, given at a delightful place a couple of miles from the city, known as "Mahler's Vineyard," and now the property of the well-known jewelers of that name. The pig which formed the principle feature of the affair had been cooked for many hours in the fringe of the woods nearby, and he and the proper concomitants were served in a pavilion adjoining the building. Everything was in delightful taste, and was greatly appreciated

by all present, the company numbering about forty. Mayor James Johnson was the toastmaster, and he presided very gracefully, calling upon various gentlemen present for short talks. The first call was upon President Bernau and the second upon Fred A. Olds, secretary of the Chamber of Commerce, who said in part:

"A word to your organization and yourselves, gentlemen of the association. It is a fact that the responsibilities which lie upon the jeweler are direct and grave. Hundreds of times I have been asked whether this or that jeweler was reliable. Now, this means a great deal. It means that there must be the personal element of honesty and fair dealing, and this is well promoted and furthered by organization, which holds and unites together and begets pride in the profession and the individual character."

At the conclusion of the barbecue, upon motion of Mr. Bernau, a rising vote of thanks was adopted, expressive of the appreciation of the hospitality of the Raleigh jewelers in providing so delightful a form of entertainment.

The evening meeting was called to order at 7.30 P. M. by President Bernau, and addressed by J. T. Burk, of Wilmington. A resolution was introduced by Mr. Leonard, seconded by Mr. Burk, as follows:

"Resolved, That, as a body, we disapprove of any changes being made in the way gold filled watch cases are now being stamped."

This resolution was passed unanimously.

The following resolution was introduced by Mr. Jones, seconded by Mr. Leonard:

"Resolved, That we keep hands off railroad inspection law."

Mr. Bernau introduced a resolution condemning the practice of watch factories making one grade of movement for jewelers and other grades or nameless movements for catalogue houses. A resolution was also passed recommending that the American watch companies sell their watches through selling agents and watchmakers only.

The report of the committee on adopting an official organ was tabled. The nominating committee recommended the election of the following officers: R. C. Bernau, president; Fred W. Mahler, vice-president; Frank M. Jolly, secretary and treasurer, and William G. Frazier and J. T. Burk, with the officers, to act as executive committee. They were unanimously elected.

Delegates to the national convention were as follows: J. T. Burk, N. D. Wells, R. C. Bernau, B. R. Jolly.

Minnesota Retail Jewelers' Association

A meeting of this association will be held in connection with the meeting of the State optical society at West Hotel, Minneapolis, on July 6th, 7th and 8th. Great preparations are being made to make this one of the most successful of the joint meetings yet held, and all the jewelers in the State are earnestly urged to attend. The programme of entertainment includes boat and trolley trips and many forms of amusements.

Wisconsin Retail Jewelers' Association

The third annual convention of the Wisconsin Retail Jewelers' Association will be held in Milwaukee on July 8th and 9th. A programme of exceptional practicability and helpfulness is being prepared, and indications point to the greatest State gathering of retail jewelers ever held. The first day will be an open one, and the second an executive session.

The Wisconsin Association of Optometrists meets at the same place, on the 8th and 9th, and on the 10th the new optical association, known as the Badger State Optical Society, organized for the purpose of making a strenuous effort to secure an optical law at the next session of the legislature, will consider ways and means of accomplishing their object.

This will make four busy days for the Wisconsin jewelers and opticians. Jobbers and manufacturers who are so inclined are cordially invited to make exhibits. The sessions of the associations will be held in the hotel headquarters, making it possible for exhibitors to make their displays without extra work or risk on their part.

The entertainment of the visitors will be in the

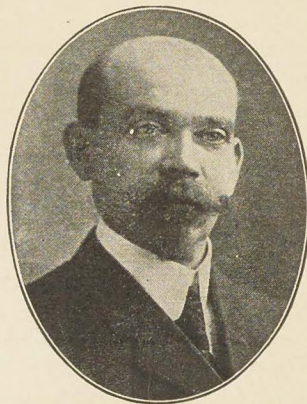
hands of the Milwaukee Jewelers' Club. Further information will be gladly furnished by Franklin Thomson, secretary, 60-61 Sentinel Building, Milwaukee.

Milwaukee Jewelers' Club

The monthly banquet and annual meeting of the Milwaukee Jewelers' Club were held at the Hotel Blatz on Wednesday evening, May 13th, with forty-five members present. At the close of the dinner the following officers were elected for the ensuing year: A. J. Stoessel, president; Geo. Durner, vice-president; Franklin Thomson, secretary; Frank P. Wilde, treasurer; board of directors: W. H. Upmeyer, E. F. Rohn and Theo. Schelle.

Plans for the entertainment of delegates to the convention of the Wisconsin Retail Jewelers' Association in July were discussed, and the following were named as a committee on arrangements: Harry Stouthamer, Geo. Durner, Charles Kuesel, O. F. Fischedick, O. H. Bingenheimer and Henry Stecher. These will serve on the finance committee: F. P. Wilde, E. F. Rohn, G. C. DeHeus.

A. W. Anderson, Neenah, and B. W. Braumworth, formerly of West Bend, were guests of the club at its banquet, at which President Stoessel presided as toastmaster.



President A. J. Stoessel

South Dakota Retail Jewelers' Association

The members of this association met at Watertown, May 12th. The meeting was well attended and some good work was accomplished, which, it is hoped, will result in much benefit to the jewelers of the State.

W. G. Nickols, of Mitchell, was re-elected to the office of president. The vice-president is Chas. Halbkat; secretary, A. W. Voedisch, Aberdeen, and treasurer, H. C. Middlebrook, Huron. The board of directors consists of all the officers and R. W. Kelner, of Clark, three years; F. C. Arns, Doland, two years; D. Sharp, Brookings, one year. Delegates to the national convention are Will Booth, Sioux Falls; Mr. Fritz, Sioux Falls, and Carl Damuth, Redfield. Motion was made and carried that congress defer action on the Vreeland bill until after the national convention at Cincinnati, in August.

Motion made and carried that congress put watch inspectors on the accepted list of the national anti-pass law.

I. M. Radabaugh, national secretary, was present at the meeting and gave some valuable advice and assistance.

Notice to Virginia Jewelers

There will be a meeting of the retail jewelers of Virginia at Richmond on June 18th for the purpose of forming a retail jewelers' association.

Vice-President Archibald, of the American National Retail Jewelers' Association, will be in charge, and a good attendance is assured. Notice of the exact time and place will be mailed to every jeweler in the State.

Oklahoma Retail Jewelers' Association

At the recent annual meeting of the Oklahoma Retail Jewelers' Association held in Oklahoma City, the following officers were elected: Joseph Mazer, McAlester, president; H. A. Bump, Oklahoma City, vice-president; A. Y. Boswell, Tulsa, treasurer; F. C. Boasen, Oklahoma City, secretary. President Mazer was also elected delegate to the convention of the national association, which meets in Cincinnati in August.

Watch Inspection as a Railroad Institution

The publicity given to the matter of railroad watch inspection in recent months has served a twofold purpose. In the first place, it has thoroughly cleared the atmosphere as far as the trade are concerned. The jewelers, without exception, now recognize the wisdom of a policy of non-interference in a matter which concerns solely the railroad companies, their employees and patrons. They recognize, furthermore, that such unwarranted interference could not fail to prove disastrous to the present pleasant and profitable trade relations to the inspection system. The second purpose subserved is the greater interest now taken by the

watch dealer ; and this, we take it, is what most interests our subscribers.

The system of watch inspection which will appeal most favorably to the trade is naturally that which allows a free field and no favor. All jewelers, it is true, cannot hold the position of local watch inspector; but there can be no ground for complaint as long as every individual jeweler has the unrestricted privilege of selling and repairing railroad watches or of lending a watch to the railroad man while his own is being repaired, provided such watch is up to the standard called for by the railroad regulations. And here we may state that this question of loaned watches is one of the most important features of the system. As the railroad man's service must be continuous and as he must at every moment of this service be pro-

vided with a watch of standard grade and accuracy, the loaned watch becomes as important a consideration as the railroad man's own timepiece. To meet this difficulty, a standard loaner watch service was introduced by Mr. Webb C. Ball, of Cleveland, Ohio, whose name is most intimately associated with railroad watch inspection and who has devoted unstinted time, ability and enthusiasm to the perfection of this service. When a watch is left for repairs, the railroad man is given a standard loaner watch together with a certificate, as shown in Fig. 1. The purpose of and regulations affecting this certificate

are explained on the back of same, as reproduced in Fig. 2, a perusal of which is necessary to the understanding of this feature.

These loaned watches are furnished free of charge by the local inspectors to the railroad men, but, as explained on the back of the card, any jeweler can lend a watch to the railroad man provided same is of such a standard as will meet the time service requirements. The standard loaner system, which means a large investment of capital, has proved a boon alike to the railroad companies and the men. If we take the case of the New York

standard loaners, and the employees made use of these standard loaners 4526 days, or an average of 13.5 days for each loaner watch used. Following the different six months' periods along the column, it will be noted that the standard loaner watches increased in number each period, as well as the days carried, from April 1, 1903, to April 1,

STANDARD LOANER TIME RECORDS

MARK TIME IN SECONDS

[illegible]

DATE RETURNED _____ 190_____

Watch Inspector.—This "Loaner Card Form C. T. 90-F" must be issued to every Employee who leaves his watch or repairs, regulation, etc. Take up Employee's regular Comparison Card Form C. T. 90-B" when he leaves his watch, and give him "Loaner Card" on which to keep record while he carries "Loaner Watch."

When he returns Loaner Watch take up "Loaner Card" and return to him his own Comparison Card. At this time transfer comparison records from Loaner Card to his own Card, so employee will receive credit for all comparisons. Mark date Loaner Watch is returned on "Loaner Card."

Employee. Always insist on obtaining this "Loaner Card Form C. T. 90-E" when your watch is being repaired. Should you leave your watch with any jeweler not the Company's Inspector, you must get a Standard Watch; according to Rule 11, and take it to the Company's Inspector, who will issue you a "Loaner Card Form C. T. 90-E," and take up your own Card.

After your watch has been put in proper order, you must take it to the Company's Inspector for examination and approval before it can be carried in service. He will take up the "Loaner Card" and return your own Card, and transfer the Comparison Records to it. You will thus get full credit for ALL comparisons. The "Loaner Card" is a safeguard to you and a protection to the B. & O. R. R. service. G. L. POTTER, 3rd Vice-Pres.

Fig. 2

10M-1-18-08

FORM C. T. 90-E.

STANDARD LOANER CARD.
THE BALTIMORE & OHIO R. R. CO.
TIME INSPECTION SERVICE.

.....190.....

This is to Certify, that the Loaner Watch of.....

employed as _____ on the _____ Division

Movement No. Grade is up to the standard of excellence required by The B. & O. R. R. Co. (Rule 11 Circular "Instructions to Local Watch Inspectors"), and is performing as per record on the back of this Card.

Furnished by _____ Date _____ 190_____

Condition, etc.....

..... Watch Inspector.

Address.....
 Preserve this card. See Instructions on other side.

Fig. 1

trade in what must henceforth be regarded as one of the greatest institutions in modern railroading.

It has truly been said that "nothing succeeds like success," and on this principle railroad watch inspection has already made a unique record. Though a comparatively short period has elapsed since the introduction of the system, it is now in force on most of the railroads of this continent and, to its credit be it told, no single railroad which has once adopted the service has ever dispensed with it. On the contrary, the railroads have found it greatly to their advantage to make the system more rigid from year to year, until the perfection point has been reached. Considering this record in connection with the well-known views of the Interstate Commerce Commission and of the public in regard to the matter, it is safe to predict that some form of this service will be in force on all roads in the not far distant future.

First inspection, April	started without loss
Number of loaner	carried six months
Total number of days	
Average number of days	watch carried . . .

Some of our subscribers, whose interest has been aroused by the discussion, express a wish to get better acquainted with the time inspection service. To these we would say that it would be impossible in one article, or several articles, to do anything like justice to the comprehensiveness and thoroughness of the system under which inspection on the great roads is now conducted. It is not so difficult, however, to point out a few features of the subject, which will convey an idea of its vast importance to the high-class

First inspection, April, 1903, started without loaners	Oct. 1903	Apr. 1904	Oct. 1904	Apr. 1905	Oct. 1905	Apr. 1906	Oct. 1906	Oct. 1907
Number of loaner watches carried six months' period	335	387	506	774	736	877	954	632
Total number of days carried	4526	9242	11121	19404	16184	17351	18351	13649
Average number of days each watch carried	13.5	23.9	21.9	25.0	21.9	19.7	19.5	21.5

Fig. 3

Central & Hudson River Railroad, the record, (Fig. 3) in regard to the use of loaners on the road will show to what an extent they have been availed of by the railroad men while on duty.

It should be explained that at the time of the inauguration of the inspection service on the New York Central lines, in 1903, there were no watches designated as standard loaners in use. From April 1, 1903, to October 1, 1903, a period of six months, there were put into service 335

1905, a period of two years; and during the April, 1905 period, employees used them 19,404 days, or an average of 25 days for each watch carried.

In Fig. 4 (on page 953) is shown a sample of the employees' card certificate as used on the New York Central & Hudson River Railroad.

In Fig. 5 (on page 933) is reproduced the back of the card on which the time record of the watch is kept. These are but a few of the large number of blanks and forms of various kinds used in the inspection service, and which together make complete systematized records of all the watches on

the roads, their kinds, their owners, when repaired, time comparisons, etc.

In Fig. 6 (on page 953) is shown an interesting summary from the records on the New York Central & Hudson River Railroad. To understand this record it should be explained that rule 2-A mentioned on the back of employee's certificate, Fig. 5, refers to the rule that calls for a bi-

monthly comparison, that is, once every two weeks the employees are expected to present their standard watches to local watch inspectors for comparison with the standard regulators. This record, set down on their cards once every two weeks for the six months' period, would mean 12. Keeping this in mind and referring to the bi-monthly comparison records, Fig. 6, it will be noted that during the first inspection

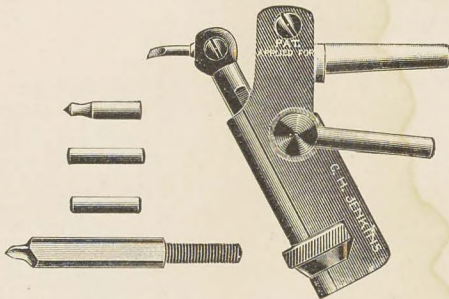
(Continued on page 953)

NEW GOODS and INVENTIONS

[The illustration and description of new goods and inventions as hereunder is a permanent feature of THE KEYSTONE; our twofold object being to keep the jeweler and optician thoroughly posted on the very latest and most salable goods, and the workman at the bench equally well posted on the newest inventions and improvements in tools and appliances.]

Improved Turning and Jeweling Attachment

We show in the accompanying illustration a new lathe attachment of peculiar merit which will appeal to all workmen. This attachment, which is being furnished to the trade by Hammel, Riglander & Co., of New York, is connected with the tail-stock spindle by a taper fitting the spindle and having a cylindrical body slightly decentered from the axis of the taper. The longitudinal feed is controlled by the normal spindle movement and is at all times in absolute alignment with the true axis of the work. The transversal feed is operated by the large knurled nut threaded direct to the the cutting tools. With this feature practically all backlash is eliminated and a positive movement imparted, capable of fine adjustment. If for any reason the cutter should not conform to the proper height, this may be readily corrected by a slight turn of the tool holder on the eccentric taper. Aside from intricate turning and boring it may be equally well used for setting jewels. Provision is made for turning in and burnishing. It will also prove of value for boring small deep holes in watch plates and similar work.



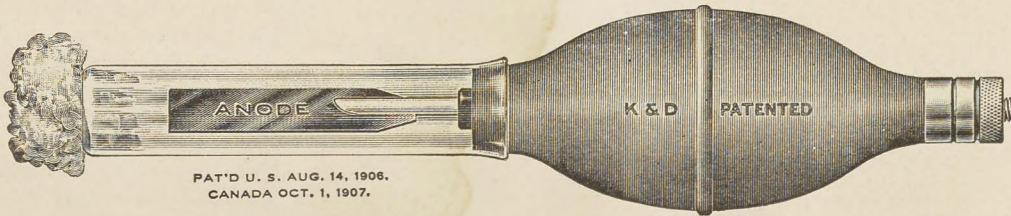
New Tools for Practical Men

A number of new tools, the special merits of which will be appreciated by our readers, have just been placed on the market by Kendrick & Davis, Lebanon, N. H. One of these is a new staking tool which is a decided departure from the time-honored type. A notable feature of this new tool is that any of the punches may be inverted, passed down through the largest hole in the die and used as a stump. Special means are provided to facilitate insertion and removal of the punches when used as stumps. Another feature of this tool which contributes greatly to its convenience is the height of the die above the bench, the advantage of which will be appreciated by every workman. The tool weighs about three pounds and is put up in a finely finished mahogany case with nickel trimmings.



Pat. applied for

Another new device made by the same firm is a jewel designed especially for poising calipers. The cut *A* in the accompanying illustration shows the jewels assembled; *C B* shows the jewels separated; *E* shows a pair inserted in the split tube *D*, ready for attachment in perfect alignment to any caliper. The settings are of fine white nickel silver and the jewels of finest sapphire. A booklet explaining how perfect poising may be done with this caliper will be furnished on



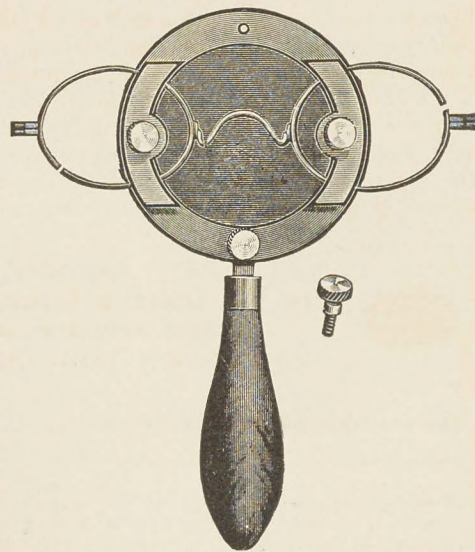
PAT'D U. S. AUG. 14, 1906.
CANADA OCT. 1, 1907.

request by the makers. Yet another new device made by this same firm is intended for plating a part only of an article without immersing it in the solution or covering it with a "resist." As shown in the illustration, this device, which also saves the fingers of the operator from contact with the solution, consists briefly of a glass tube provided at one end with a sponge or other absorbent electrical non-conductor. The other end of the tube is fitted with a rubber bulb, and suitable electrical connections with an anode holder which projects within the tube; an anode inserted in the holder and when the tube is replaced should nearly or quite touch the sponge. In use

the positive wire from the electric source is connected with the device, the negative wire with the article to be plated. By slightly compressing the bulb and dipping the sponge in the solution, a quantity may be drawn within the tube, partly immersing the anode. Now if the sponge is applied to the surface to be plated—if it has been properly prepared—deposit will immediately take place. Solution is constantly supplied to the sponge by varying pressure on the bulb, and the anode keeps the solution to standard strength, insuring uniform and durable deposit.

A New Spectacle Soldering Block

The growth of the optical business has directed much inventive talent to the improvement of the mechanical equipment of the refractionist. One of the articles on which much ingenuity has been expended is a soldering block for spectacles, and we show in the illustration the latest improvement in such a device. The new block is known as the Allison spectacle soldering block, and seems to be exceptionally efficacious for the purpose intended. This block, which is being furnished to the trade by Henry Zimmern & Co., New York City, will hold spectacle frames firm



Pat. applied for

and true in any position required. It will conduce to much better work on the part of the optician, and will also economize in time and labor. Those who have used this block speak very favorably of it, and its peculiar merits would seem to call for the immediate attention of the trade. Those who peruse the summary of patents which are of trade interest as published in our journal each month, cannot fail to be impressed with the extraordinary activity in the field of optical invention and improvement. To keep thoroughly in touch with the latest ideas it is necessary for the refractionist to be an industrious reader of trade literature and an attentive reader of the new developments in the practical end of his business.

The Self-Filling Fountain Pen

Now that the fountain pen has become a necessary pocket accessory to a large portion of the population there is continued effort to make more and more perfect this convenient essential. In the accompanying illustrations we show one of the latest pens known as the Dr. Faber Self-Filling Fountain Pen. To fill this pen you merely press the lever, stick the pen in the ink well



Filled.

up to the head, release the lever and the pen is filled. There is no effort attached to the operation, and there is no possibility of soiled fingers. It is worth noting that the self-filling apparatus may also be used for self-cleaning purposes. To clean the pen you have simply to do the same as in filling it, using water instead of ink and expelling the water with some

force. The feed is by capillary attraction and is sufficient for writing purposes without the drawback of coming too freely. Only through breakage can the self-filler leak. The ink is contained in a reservoir and does not come in contact with the joints. The reservoir is a small sack of uniform strength made from the best rubber. This sack is very durable and has been known to last for two or more years in various self-fillers, the mechanism tending to the

preservation of the rubber. Should the sack wear out it can be replaced at a very nominal expense. These pens are made by the Dr. Faber Self-Filling



Compressed.

Pen Co., Toledo, Ohio, who will gladly furnish literature fully explaining the mechanism. The company has formulated selling plans which are quite interesting and which are well worthy of prompt trade attention.

(Continued on page 954)

Watch Inspection as a Railroad Institution

(Continued from page 951)

period, April 1903 to October 1903, a period of six months, 3279 watches were compared with the standard regulators an average of 5.5 times for each watch, within .5 of being once a month.

The delinquents were 742. By this is meant the number of employees who did not have comparison records made. The next six months period from October to April showed an increase in the number of standard watches, and the comparison average increased to 6.8, which is better than once a month, and the delinquents were reduced to 452. Following these periods along as noted by the different dates, from the first to the eight period, it will be noted that the average com-

regulations, of the companies make it necessary that the watch should be of at least a certain grade, the men more frequently buy higher grade timepieces than the regulation calls for. This is the spirit cultivated by watch inspection, and it is most gratifying as well as of immeasurable material service to the railroad companies and their patrons, insuring promptness and safety in the operation of trains.

As our readers are aware, the traveling public are now well acquainted with the matter of railroad watch inspection, recognizing in it one of their most efficacious safeguards. It has, indeed, become the custom of railroad patrons, however high-priced their watches, to refer to the railroad men for the exact time, recognizing in the railroad watch the standard of accuracy. Such, indeed, is the fame of the inspection service that it would be a great shock to many of those who travel on our railroads did they discover that any of the lines which they patronized was still without this service; and this is one of the factors which point to the ultimate adoption of time inspection on all the roads in the country. It is needless to here reiterate the present and prospective benefit to the watch trade and industry of the the railroad time service, and how carefully and tactfully it should be handled by the jewelers who are much more interested than the general public in its promotion along lines of maximum benefit to the railroads.

It is needless to say to our friends, the jewelers, who are associated with the time service, that duty to the railroad companies and justice to the employees must be the first and sole consideration if maximum efficiency is to be given to the inspection service. This, we note, is insisted on by the heads of the system. In a sheet of instructions to local watch inspectors, now before us, we find that the first of a number of eminently practical rules

mind that as an inspector of watches you are acting for the company, not as an individual working for personal ends.

One can find in this rule, rigidly carried out, an explanation of the favor in which this time service is held not only by the company but by the men. Thorough as is the system and necessarily exacting though it be, it is made perfectly acceptable to the employees by the protection and con-

Cert. No. FORM 126. Page No.

NEW YORK CENTRAL & HUDSON RIVER R. R. CO.
TIME INSPECTION SERVICE.
EMPLOYEE'S CARD CERTIFICATE.

This is to Certify, that the watch of 190
employed as on the Division
Movement No. Brand
has been inspected and is up to the standard of excellence required by the
N. Y. C. & H. R. R. CO.
and is performing as per record on the back of this certificate.

Who repaired by Date 190 ..
Work done, condition, etc.

Address Watch Inspector.

EMPLOYEE MUST PRESERVE THIS CARD, and turn in to Local Inspector at next regular Semi-Annual Inspection period and obtain new card. Do not soil or deface comparison records.

Fig. 4

parisons increased until they reached 10.8. Twelve would be perfect. Deducting the 216 delinquents, and the number of watches passed into service as "first inspection," brought the average down to 10.8 which is considered as near perfect as it is possible to bring the standard of efficiency, in accordance with so-called Rule 2-A.

The general time inspector is an officer of the railroad company, responsible to the general manager or other officer whose duty it is to supervise this branch of the service. All records are compiled for the use of the latter, and after his personal examination of them he takes such steps in regard to delinquents and for the perfection of the service as he sees fit.

Railroad watch inspection is an evolution like most other institutions which aim at the goal of perfection. To establish an inspection service is not the work of a day. Experience has shown that it takes a number of years and earnest work to bring the service up to such a high standard of efficiency as shown on the New York Central Railroad. But the expenditure of time and effort is ultimately rewarded by the interest and pride taken by the men in the time records of their watches. It has been noticed that there develops a personal rivalry in the matter of accuracy. So much so, indeed, that while the

GENERAL SUMMARY	FIRST INSPECTION								
	Apr. 1903	Oct. 1903	Apr. 1904	Oct. 1904	Apr. 1905	Oct. 1905	Apr. 1906	Oct. 1906	Oct. 1907
Total number of watches inspected . .	3931	4021	4131	4075	4409	4323	4593	4688	4702
Total number of watches compared with standard clocks		3279	3669	3649	3717	3618	3989	3873	3993
Average of each watch (Rule 2-A) . .		5.5	6.8	9.5	9.3	8.9	9.9	10.2	10.8
Total number of employees whose card certificates were not returned to local watch inspectors		742	452	426	412	362	247	216	431

Fig. 6

laid down for these inspectors is as follows:

When watches are presented for inspection, care should be exercised not to impose any hardship or annoyance on the employees, and in case of any doubt, give the employee the benefit, if it can be done with safety to the service, but safety and reliability must first be considered. There must be no discrimination of any kind whatever on account of trade prejudice. You will bear in

TIME RECORD.

MARK TIME IN SECONDS—USE CHARACTERS
+ Fast. — Slow. O Run Down. □ Stopped.

Date	Rate	Sec.	R-Reg. S-Set	Inspector Sign in Ink.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				

This column shows number of comparisons on watch during six months period.

To be used in accordance with instructions contained in Rule 2a, Book of Rules of the Operating Department.
J. P. BRADFIELD, Ass't Gen. Mgr.

Fig. 5

sideration extended them and the assurance of strict justice in their dealings with and treatment by the inspectors. Here, too, as well as in the high-grade character of the railroad watch, does the jeweler find in railroad time inspection that which tends to elevate his status not only as a mechanic but as a man of honor and trustworthy merchant.

An interesting portion of the sheet of instructions to local inspectors is the list of watches which are officially recognized as meeting the railroad requirements. These watches are over forty in number and are the product of eight different manufacturers. As this list of manufacturers includes all the watch manufacturers in the country who make watches of the required standard, one can readily see the beneficial effect which the time service has on the watch industry, furnishing, as it does, material inducement for the maintenance of the high standard and cultivating not only in railroad employees but in the public generally the desire for good reliable timepieces.

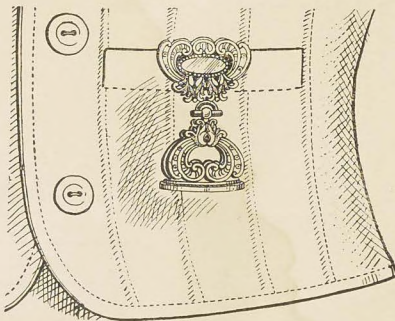
We are indebted to Mr. Webb C. Ball, general time inspector of the railroads mentioned in this article, for the records, data and inspection forms here reproduced.

New Goods and Inventions

(Continued from page 952)

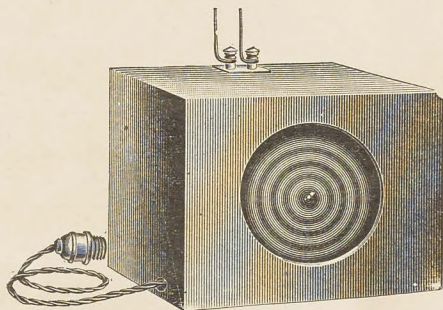
The New Fobette

A novelty which is very seasonable and which combines to an exceptional degree utility and beauty, is the new fobette just placed on the market by Bates & Bacon, Attleboro, Mass. The fobette, as shown in the illustration, is for use on ladies' belts and gentlemen's trousers and vests. It is pretty in appearance and conducive to security. As the trade are now especially eager for novelties that will assure a ready sale, they will find an excellent opportunity to enliven their stock in these handsome goods. The fobettes will appeal irresistibly to young folks, inasmuch as they are showily decorative, yet in perfect good taste. The trade will find it to their interest to promptly investigate this latest addition to their sale-making opportunities.



A Motion Target for Eye Examination

The ingenious device shown in the accompanying illustration is known as the Curtis motion target, which, it is claimed, will practically rivet the attention of any patient without the use of accommodation. The device



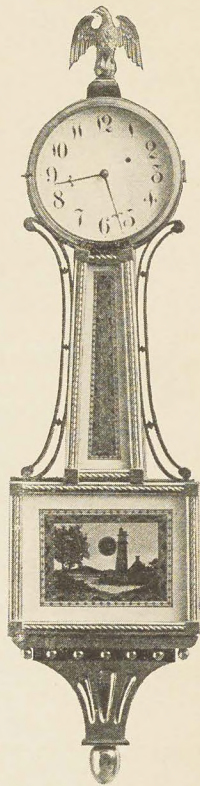
consists of a number of circles of various colors, the motion of which starts in the center and radiates towards the periphery, getting larger and larger until they finally disappear, when, in an instant, a new one is started, which also disappears in turn. These suddenly changing spiral circles so rivet the attention of patients that they hold their eyes perfectly still,

forgetful, apparently, of the fact that their eyes are being examined. By

this means the pupil of the patient's eyes enlarges or dilates with the spiral motion and at the same time causes the ciliary muscle to relax, thus revealing any latent hyperopia that may exist. It has also a quieting influence on nervous patients and is said to greatly expedite the work of examination. The new target, which is being marketed by F. A. Hardy & Co., not only serves its purpose in objective eye examination, but also can be used as an excellent window attraction. It is run by an electric motor, which receives its power from a dry cell battery and has interior illumination.

New Line of "Banjo" Clocks

One of the most popular, as well as one of the earliest shapes of clocks, is what is termed the "Banjo" clock, the first of which were manufactured by Simon Willard early in the nineteenth century. Some of these clocks still exist, with glass panels bearing the inscription, "Simon Willard's Patent." Ever since that early period banjo clocks have been more or less in demand, but in recent years they have met with unusual trade and public favor. This is doubtless largely attributable to the handsome banjo clock product of Killam & Co., Pawtucket, R. I., who make a specialty of this graceful style of timepiece. In those clocks the cases are mahogany, with heavy brass sashes fitted with old-style convex or bull's eye glass over the dials. The top and side ornaments are of brass. The dials are 7¾ inches in diameter and made of iron, enameled and hand-painted, with either Roman or Arabic numerals, as desired. The glass panels are hand-painted and ornamented with gold-leaf, and the designs are copies of the original Willard pictures. They are provided with eight-day weight movements, fitted with a pendulum of thoroughly seasoned wood which is unaffected by climate or temperature changes. The present popular predilection for old Colonial styles makes these clocks specially interesting to the trade, who will doubtless find them a profitable addition to staple lines.

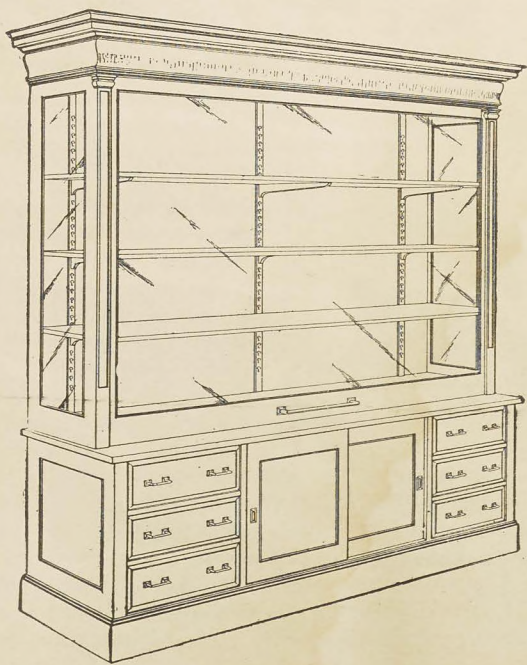


ALEXANDER H. REVELL & CO.

Rees, Dayton, Eastman and Hawthorne Streets, Chicago, Ill.

High-Grade Jewelry Store Fixtures

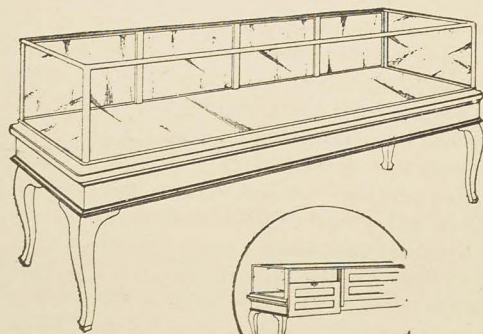
A Specialty



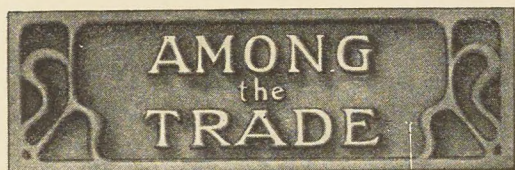
No. "FOUR HUNDRED" SPECIAL COLONIAL WALL CASE

We can fill the requirements
of each individual customer.

Write us for description and
prices on these or other
styles.



No. 11. SPEC. SHOW CASE and TABLE



The trade are invited to send us reliable items of news for this department

Alabama

R. F. & E. W. Paddison, of Ozark, have purchased the jewelry business in that place of H. J. Hood and the optical business of R. E. Halman and will continue both on a large scale. They will be pleased to receive manufacturers' catalogues and price lists.

Georgia

F. C. Rockwell, who formerly conducted a trade repair shop in Atlanta, has sold his business in that city and moved to Hot Springs, Ark., where he has reopened in the same line of trade.

Iowa

Harry G. Butterfield, Hamburg, is receiving congratulations on the birth of a daughter, who arrived at his home on April 20th.

Dell Adkins, of Sibley, has sold his jewelry store to Harry Russell & Son, of that place. The Adkins store had an extensive reputation as one of the best in northwest Iowa. Lloyd L. Hook, jeweler and optician, will continue his work at the bench for the new firm.

J. S. Pieringer & Co., Bedford, have just moved into a new building especially intended for their business. The new store is in the best location in Bedford and will have on one side of it a \$50,000 bank building. The store has been leased for a period of ten years, with the privilege of indefinite extension. J. S. Pieringer is the optician of the firm and has furnished his optical parlors with all the latest instruments and facilities for eye refraction. He is an accomplished optician and an enthusiast in this line.

Maryland

Oscar F. Sturmer, Easton, came to his death suddenly some weeks ago by accidentally falling from a train crossing into the Susquehanna river. The verdict of the coroner's jury was accidental drowning, the body being recovered some hours after the accident. His estate will pass to his sister in Chicago and his brother, Ernest D. Sturmer who is at present conducting the business as administrator for the estate.

Massachusetts

J. H. McGovern, Haverhill, enjoys an enviable reputation as an expert trout fisherman. He is always among the first to open the fishing season and has made several record captures. As usual, he opened the season in New Hampshire in May, when his skill was rewarded with a large take.

Ohio

John Rich, one of the oldest and most highly respected business men of Painesville, recently celebrated the fiftieth anniversary of his career as a jeweler. Mr. Rich started in business on May 5, 1858. After several removals, he purchased the store in which he is now doing business in 1866, which means that he has spent forty-two years in this location. Mr. Rich had his store especially decorated and an orchestra

furnished music to the many who called to extend congratulations.

Texas

Cave & Plunkett, Houston, have made arrangements for enlarging their already prosperous business by securing new capital. To this end they decided to incorporate, and invited James Allan, Jr., of the Allan Jewelry Company, of Charleston, S. C., to visit Houston with a view to becoming interested in the firm. They had been in his employ for several years and knew what manner of man he was. Mr. Allan came, looked into matters generally, and decided that the plan proposed was a good one. Accordingly, the stock company has been organized, with D. M. Cave as president, James Allan, Jr., as vice-president, H. C. Plunkett as secretary-treasurer. H. C. Schirmer, of Charleston, S. C., will be a director in addition to the officers named, and another director is yet to be elected. Mr. Allan, of the Charleston wholesale house, well known to the southern trade, is thoroughly conversant with all branches of the business. While still a youth, he studied practical horology at the famous Locle school in Switzerland, under the supervision of Jules Grossman. He also was honored by the Grossmans, *pere et fils*, by being selected to translate their well-known work, "Lessons in Horology," published by The Keystone Publishing Co. He is very enthusiastic as to the firm's prospects in the great and growing city of Houston.

Washington

Leo M. Dornberg & Co., Spokane, was awarded the contract for furnishing the trophy to be presented by the people of that city to the American navy. The cost of the cup was paid by popular subscription, \$1500 being raised for the purpose. The trophy stands twenty-three feet in height and will contain 400 ounces of sterling silver. The extreme width across the handles is fifteen feet. The design is very appropriate, embodying, as it does, much historic symbolism in connection with the city.

Commercial Travelers as a Factor in Credits

Important Functions of Travelers

In connection with an advertising contract that the writer is negotiating with one of the largest textile manufacturing establishments in the country, when every item of the complicated programme had been approved by the advertising manager of the concern in question, it was suddenly announced that the execution of the contract would have to be postponed for a day or two because complete reports from the traveling men had not been forthcoming, says the *Southern Merchant*. The matter was, therefore, held up. The moral that results from this is the before-emphasized statement that the traveling man is every day becoming more and more a power, not only in the handling of goods, but in relation to the general business between the manufacturer and jobber and retailer.

The reports of the traveling men are earnestly sought not only by the sales departments of progressive houses, but by the credit managers as well, and the reason for this is obvious. There is no doubt of modern business systems that knows legal conditions better than the traveling salesman. The day has long since passed

when the traveling man would consider it the prime element of his success to sell big orders regardless of the consequences. The thing that he now strives to do is to sell goods to customers who will remain his customers, and there is only one way to do this, and that is to give his customers and himself a straight deal. The straight deal means the closest application to existing conditions. It means that he must carefully study the needs of his customers and endeavor to cater to them in the fullest way. It means that he must look fully into the credit of new prospects and follow the same line that his older customers, so that the risk of complications between his credit department and his customers may be reduced to the minimum in all cases.

Retailer's Best Policy

That is the traveling man's part of the programme, but the retailer, or the house of any kind that buys from the traveling salesman, also has its part to perform. The retail merchants who refuse the traveling man their full confidence are standing in their own light. The time has passed when you can treat the traveling man of established houses like common solicitors. They cannot be ignored. Remember this one thing well: The traveling man is a more important factor in the credits of his house than any commercial agency ever has been or ever will be. He is closer in touch with the conditions of his trade, and his interests are identical with those of the house he represents. If he sells a bad account, his own account suffers thereby, and he fully knows that he cannot take any more than usual business risks. The commercial reporter, on the other hand is often a small salaried reporter, not only young in years, but necessarily so in experience. He has not the broad business scope that has the traveling salesman in dealing with the trade, and his views as voiced in his reports are often narrow in their conception, and what does he care. If he doesn't get the exact facts he can make a guess, and what matters if he doesn't guess within a mile of the true facts; what incentive is there for him to put his whole soul into the business and feel the responsibility of the case he is dealing with—the very life of trade? About fifteen dollars per week for an inexperienced man—often a youth—to get at the facts in connection with the very life of trade! Is there any wonder that the credit men of our big institutions are invariably relying upon the reports of their traveling men—men whose business interests are identical with their own—for a true report of the facts relating to their business?

Traveling Man's Thrilling Escape

The destructive conflagration that quickly consumed the Hotel Aveling, Fort Wayne, Ind., last month will long be remembered by J. C. Yingling, the popular representative of the Swigart Optical and Watch Co., Toledo, Ohio. Mr. Yingling occupied a room on the fifth floor and well to the rear of the building, and slid to safety down an electric wire. Mr. Yingling said:

"I was awakened about 3.45 o'clock by somebody shouting: 'Open that door!' There seemed to be a good deal of confusion, but I thought it only some roystering guests in an adjoining room. A moment later glares of light began to show through the transom in my room, and I hurriedly opened the door to investigate. As I did so, a cloud of smoke burst into the room, and I saw the entire hallway was aflame. Closing the door, I hurriedly got into a portion of my clothes and sought the only window in my room, which opened into a court at the rear of the building. The prospect of escape was very slim, but in probing about in the dark, my hands touched an electric wire leading to the ground. It was the only chance, and I determined to take it. In the room adjoining mine was a man calling for help, and I yelled to him to come into my room and follow me. I grasped the wire and slid down, my unknown companion coming so close after me that he stepped upon my hands, but I did not mind that. I escaped with a few little scratches and a sprained ankle." The many friends of Mr. Yingling rejoiced at his sensational escape and hope that he has met his last adventure of this kind.

Bohemian Glassware

One of the lines most interesting to the jewelers and the public from an artistic point of view is Bohemian glassware which enjoys a world-wide fame for beauty of design and coloring. As it is of value to the jeweler to have some technical knowledge of this beautiful ware, we print the following extracts and illustrations from a very interesting article on the subject from the pen of the well-known connoisseur, Walter A. Dyer, which appeared in a recent issue of "Country Life in America." Mr. Dyer says in part:

"While most of our glassware came from England, much of that most highly prized and most carefully preserved by our great-grandfathers came from Germany—chiefly Bohemia, Saxony, Bavaria and Silesia. Because it was so carefully preserved, not a little of it is still in existence, and it offers a fascinating field for the collector.

"Bohemian glassware was made chiefly in the forms of drinking mugs, decanters, bottles, goblets and wine sets. Pitchers dishes and other pieces are occasionally found. The forms are so varied and beautiful that no collection, however large, can ever become monotonous.

Beautiful Color Effects "The colors also offer wide variety. Red, green, pink, blue, white, amber and other colors were used. As a rule, however, the quality of the color is unmistakable and of great beauty. Hold a piece of real Bohemian against the light, and its clear, gem-like effect becomes at once apparent.

"The decoration is in the main intaglio; the surface of the glass was stained, and the design cut into the clear crystal. There are some exceptions which will be mentioned later.

"The art of making glassware stained on the surface probably originated in Venice, the seat of the greatest skill and originality in glass-craft in the sixteenth and seventeenth centuries. This art was probably copied by the Germans about the beginning of the seventeenth century. During this century the manufacture of Bohemian glassware became an important industry and made a serious impression on the European glass market. Venice had controlled the glass trade for more than three hundred years, and France had been content to sit at her feet and learn of her. Now Bohemia entered the industrial lists with a clearer glass than that which either of her competitors were able to produce. Furthermore, a Bohemian named Gasper Lehmann discovered a hitherto unknown method for engraving upon glass,

and this opened a new field for decorative art. Lehmann transmitted his knowledge to a pupil named George Schwanhard, and he continued to improve upon his master's devices, until all Europe went mad over engraved glass.

How the Glass is Engraved

"The engraving was done by holding the glass against the point of a whirling spindle, and designs of great intricacy were in this way executed by skilled workmen. Designs were also made by cutting on wheels, depending on the sharp outline of the stained surface to produce the decoration in relief. Four vertical wheels were successfully used, set in motion by the workman's feet. The first of these wheels was of iron, the next of sandstone, the next of wood, and the last of cork. The first operation of rough cutting was done on the iron wheel, by using sand moistened with water. The sandstone wheel was lightly applied, and that was followed by the wooden one, on which had been thrown fine sand first, then very fine emery, and lastly putty powder, which is a mixture of tin and oxide of lead. The last wheel of cork finished the operation. If a workman did not have a cork wheel, he could still put on a very good finish by means of his wooden wheel, sprinkled with dry tin-putty, and covered with a piece of woolen stuff.

"A cheaper kind of Bohemian glass was sometimes made by etching the design with fluoric acid, by a somewhat complicated but not expensive process. Very skillful and beautiful ornamentation was done in this way, but acid-etched pieces are naturally of less value than hand-cut pieces to-day, as they were a century or two ago. Etched glass can be distinguished after some experience. However carefully the chemical operation may be performed, it is impossible that every part eaten by the acid should have the sharpness and clearness of line which is given by the point of a graving tool or the edge of the cutting wheel.

Exclusiveness of Bohemian Ware

"Comparisons between the Bohemian product and much of the other glass upon the market were strongly in favor of the former. It was clear, light, and of agreeable delicacy to the touch. No other glass as purely colorless was ever made until the modern discovery of flint glass. The Bohemians used their own shapes, which are distinctly different from all others, if not often more beautiful.

"One step in the manufacture differed quite widely from that used in other countries. In order to hasten the work of the furnaces, the rims of goblets and similar objects were trimmed by means of the cutter's wheel, instead of by the glass-maker's shears, as in

England, Belgium, and France. The workmen, by long practice, had acquired a wonderful degree of skill in taking the top from articles by the cutter, instead of having them opened by the glass-blower. This gave the edges a neater and smoother appearance.

"While cutting and engraving were the more common forms of decoration, the originality of the Bohemian glass-workers did not lack other means of expression. The art of cameo incrustation on glassware was first introduced by the Bohemians, and they made use of it to some extent. A kind of enameled painting is also found on what has been called Fichtel glass, made at kilns in the Fichtel Mountains in Bavaria. Artists sometimes varied their work and produced pleasing effects by engraving through the outer coloring into an interior of white, transparent or enameled glass, which was afterward decorated with gold, and painted in arabesques.

"Collectors of Bohemian glassware should look first for sharpness and depth of cutting, and excellence of design. A beautiful form is naturally more valuable than a clumsy one, and a delicate pattern in the engraving than a coarse one. All other things being equal, the heavier the glass and the deeper the cutting, the more valuable the piece, while the amount and elaborateness of the engraving and cutting are also determining factors. Always examine the cutting and feel of the edges. They should be sharp, or a high price is unjustifiable.

"The sharp edges are not found on the acid-etched pieces nor on the half-cut imitations. These imitations are very successfully made by first blowing the glass in a mold that contains the required design, and then giving it a superficial finish on the wheel. The edges readily proclaim a difference between the real cut glass and the imitation. This, of course, is a common test for all cut glass.

"The color is another important feature to consider. Any piece loses value if its color is not clear, uniform and pleasing. Some of the blues and greens are far less desirable than others, while the connoisseur never ceases his search for the perfect red. A deep wine-color is much desired, but a rich, brilliant ruby—almost an ox-blood color—is the most earnestly sought for and the least easily imitated. The whites and light tints should always be perfectly clear; just now pure pink is much in demand, and high prices are asked and paid for it.

"The only reasonable criticism ever made upon the glass is that it sometimes yellows with age, but this has been found by experiment to be true of all perfectly clear glass, under the action of strong sunlight. Applications of artificial heat restore the original purity.

SPECIAL ORDERS

NO ORDER TOO LARGE

FOR OUR SUPERBLY
EQUIPPED FACTORY TO
TURN OUT PROMPTLY.

NO ORDER TOO SMALL

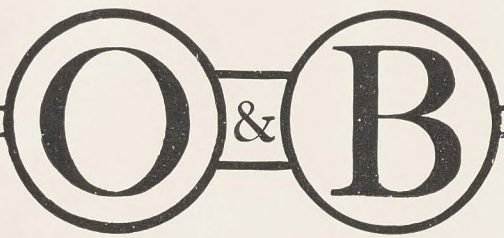
TO RECEIVE OUR MOST
CAREFUL ATTENTION

MEDALS, SCHOOL & SOCIETY PINS,
DIAMOND SETTINGS & HAND WROUGHT
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A handsome line of seamless wire GOLD FILLED RINGS

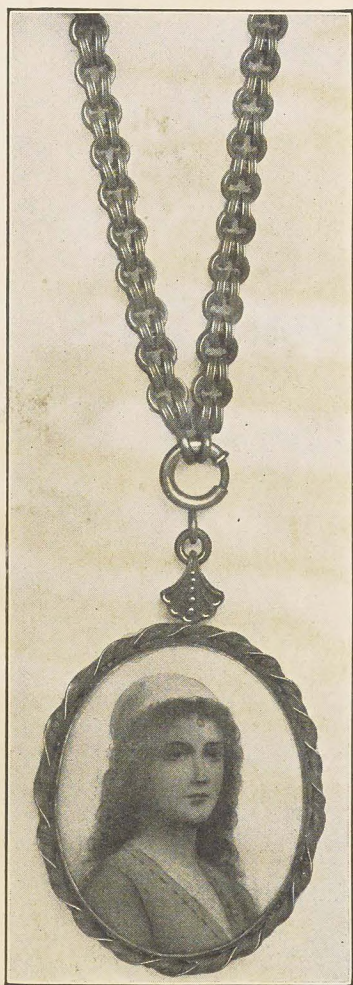
OSTBY & BARTON CO.

New York Office—9-13 Maiden Lane

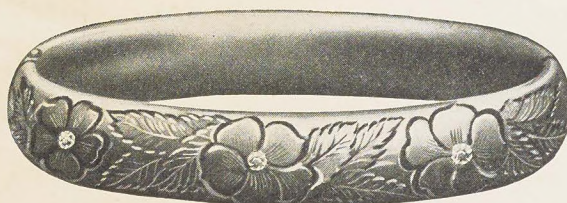
Providence, R. I.

Chicago Office—103 State Street

AUSTIN & STONE, INCORPORATED, ATTLEBORO MASS.



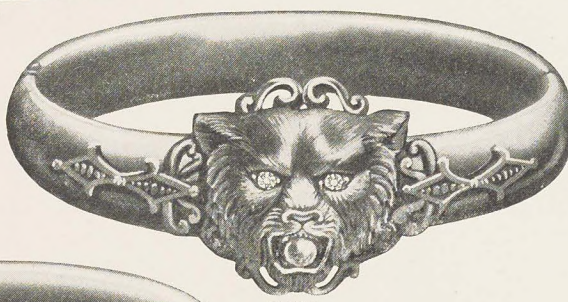
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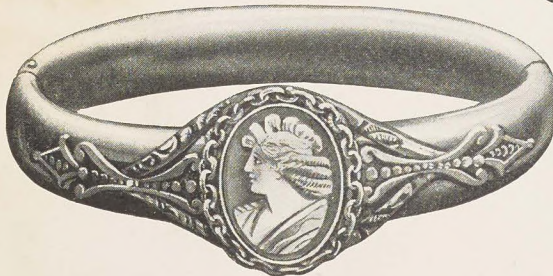
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We make the highest-grade
Gold Filled Novelties in
CHAINS

BRACELETS
LAVALLIERES
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B 5106

Our new Fall Line
is now being shown
to the Jobbing Trade

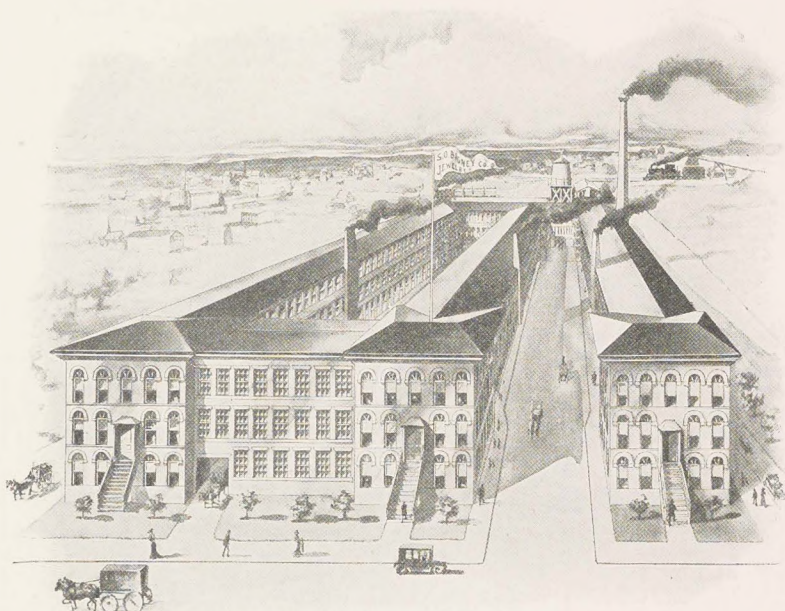
If your jobber cannot supply you with the "IF FOR ANY REASON" Line, write to us, and we will put you in touch with a live jobber.



IF FOR ANY REASON THIS BRACELET
IS NOT SATISFACTORY TO THE PUR-
CHASER, IT CAN BE RETURNED TO THE
MAKER AND A NEW ONE WILL BE
GIVEN IN EXCHANGE
AUSTIN & STONE, INC.
Attleboro, Mass.



L12043



Our New Chain Plant—the Largest in the United States

This is the
factory where
the celebrated
S. O. Bigney
& Co.'s high-
grade gold
filled chains
are made



Y45/L250

Our New Locket Fob FOR LADIES

is the most up-to-date
article worn to-day



We employ skilled workmen.

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Our chains give satisfaction.

We guarantee every article made in our factory.

The various assays have demonstrated the fact that there is more
gold on our chains than any other make; they are finished
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Ask for the genuine Bigney chains, and do not accept substitutes.

Our gold filled bracelets are made in all widths, oval and square,
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We make the most magnificent line of fob chains on the market.

We do not sell the retail trade.



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Attleboro

Mass.

New York Office: 3 Maiden Lane

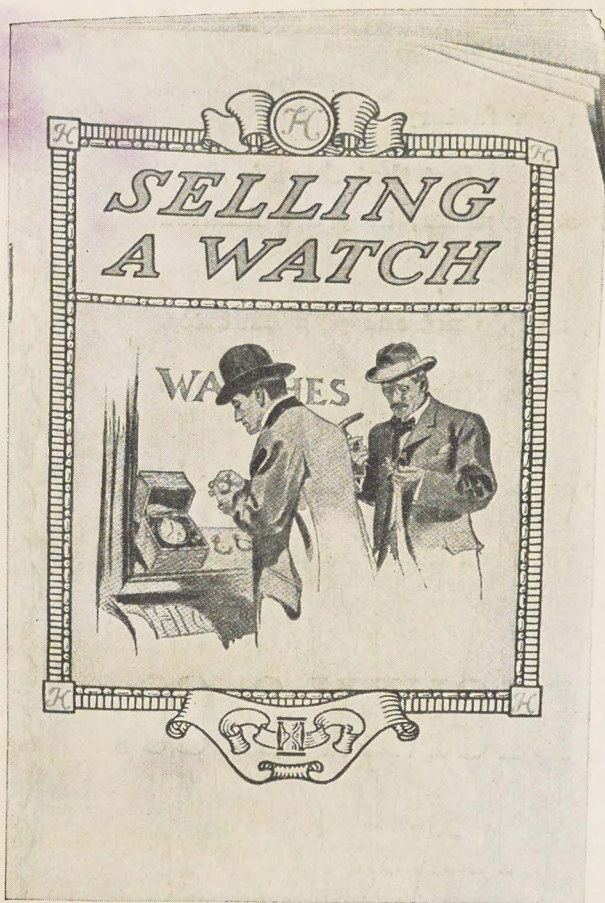


01564



Have you read the new book on watch salesmanship issued by the E. Howard Watch Company?

It was published a few weeks ago and sent free to Howard dealers, with the request that they read it and hand it to the salesman and assistants in their stores.



Since then, twenty thousand copies have been absorbed by the trade. Requests have poured in for additional copies. Letters received from retail dealers say it is the most helpful and timely word ever written on certain tendencies of the trade.

If you haven't read it, you should do so at once.

Another edition is now on the press. If you have mislaid the copy sent you or want additional copies for the men in the store, send a postal card now.

There is no charge for the book, but it is worth money to every jeweler who reads it.

E. HOWARD WATCH COMPANY
WALTHAM, MASS.



The Howard Watch

The man with the HOWARD makes an appointment over the telephone. He knows what he is talking about. He knows what time it is *now*. He calculates his time in seconds—not in quarter hours.

The average man distrusts his watch. Ask him the time and he apologizes in advance. He doesn't say with the HOWARD owner, "It is thus and so." He says, "I have so and so." Or, "My watch says," etc. There is a new self-respect that goes with having the *exact* time and *knowing* that you have it.

The HOWARD horologists make nothing but exquisitely adjusted watches. They know nothing less. Some of them represent the fourth generation of HOWARD watchmakers. The HOWARD tradition is handed down; it is in their blood.

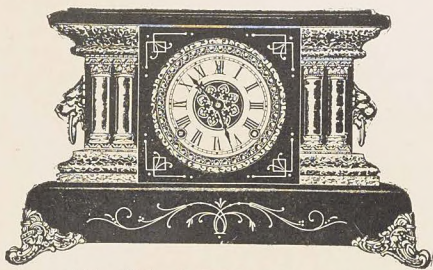
A HOWARD watch is always worth what you pay for it. The price of each watch from the 17-jewel, in a fine gold-filled case (guaranteed for 25 years) at \$35, to the 23-jewel, 14 K. solid gold case at \$150—is fixed at the factory and a printed ticket attached.

Find the HOWARD dealer in your locality and talk to him. If you have any difficulty write to us. Not every jeweler can sell you a HOWARD. The HOWARD tradition is particular as to who represents it.

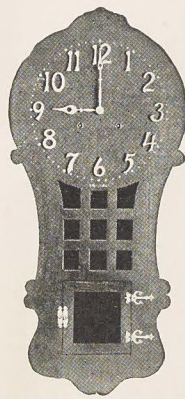
Elbert Hubbard visited the home of the HOWARD Watch and wrote a book about it. If you'd like to read this little journey drop us a postal card—Dept. A—we'll be glad to send it to you. Also a little catalogue and price-list, with illustrations actual size—of great value to the watch buyer.

E. HOWARD WATCH COMPANY
WALTHAM, MASS.

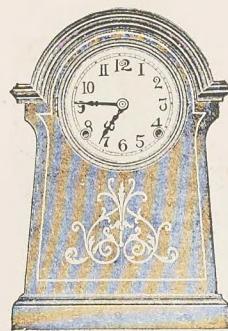
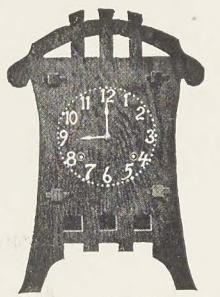
The above announcement appears in the leading magazines and periodicals for June. It reaches 7,500,000 subscribers (about 30,000,000 readers). It will be seen by every man in your community who can afford to buy a watch. Some of them will be interested. Are you a HOWARD dealer? Do the people of your locality know that they can find the HOWARD at your store?



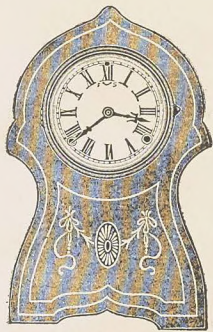
11 in. high. BERRI. 17½ in. long.



RAMONA. 31 in. high

PLYMOUTH
Inlaid Mahogany 14 in. high

RETA. 17 in. high

MANCHESTER
Inlaid Mahogany. 13¾ in. high

The Sessions Clock Co.

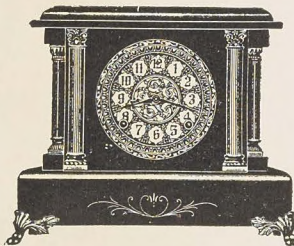
Manufacturers of

SUPERIOR CLOCKS

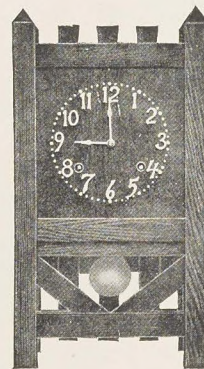
Main Office and Factories
Forestville, Conn., U.S.A.
New York Salesrooms
37 Maiden Lane



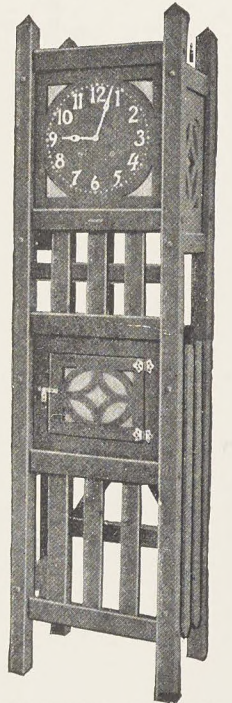
11 in. high. STERLING. 15½ in. long.



11½ in. high. COLONIAL. 14 in. long



CEDRO. 18 in. high



HOLLAND. 6 ft. high

The Rotator

A Perfect Nickel Alarm Clock

FEATURES—Alternating Alarm. Largest and Loudest Bell of Any Nickel Alarm Clock Made. Bell Contained Entirely Within the Case. Highest Grade. Lowest Price.

This Clock is 6 inches in height, with 4½-inch dial. Case of seamless drawn brass, nickered and highly polished. The movement is made of the best material obtainable for the purpose, and is constructed on scientific principles by the best methods and workmanship. Every clock is thoroughly tested before it leaves the factory and is warranted a first-class timekeeper.

The bell is contained entirely within the case, being located between the dial and movement. The case is encircled with perforations to allow the sound to escape. To prevent dust from getting into the movement through these perforations, a dust cap is located between the bell and movement, dividing the case into two compartments, absolutely separated. The forward one is perforated and contains the bell, and the other is perfectly tight and dust-proof, and contains the movement; all of which is clearly shown in the interior view.

A bell arranged in this manner has many advantages over placing it on top of case, or at the back. Being wholly within the case it cannot be muffled by coming in contact with any foreign object, nor can it be displaced or thrown out of adjustment by striking against something, as frequently happens when the bell is on top or back of case. As the diameter of the bell is practically that of the interior of the case, it is in consequence much larger and noisier than any other bell on the market.

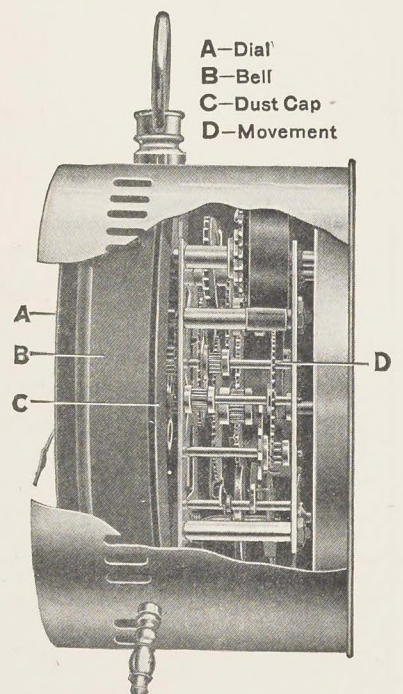
The alarm rings for about a quarter of a minute, and is silent a similar period, alternating thus for about 12 minutes, but is fitted with a manual "shut-off" by means of which the alarm may be discontinued at will. The alarm adjustment will be found practically perfect, and the alarm may be relied upon to "go off" at the time set.

Sold by all leading jobbers. If your local jobber does not handle it, write us.

THE E. INGRAHAM COMPANY, BRISTOL, CONN.



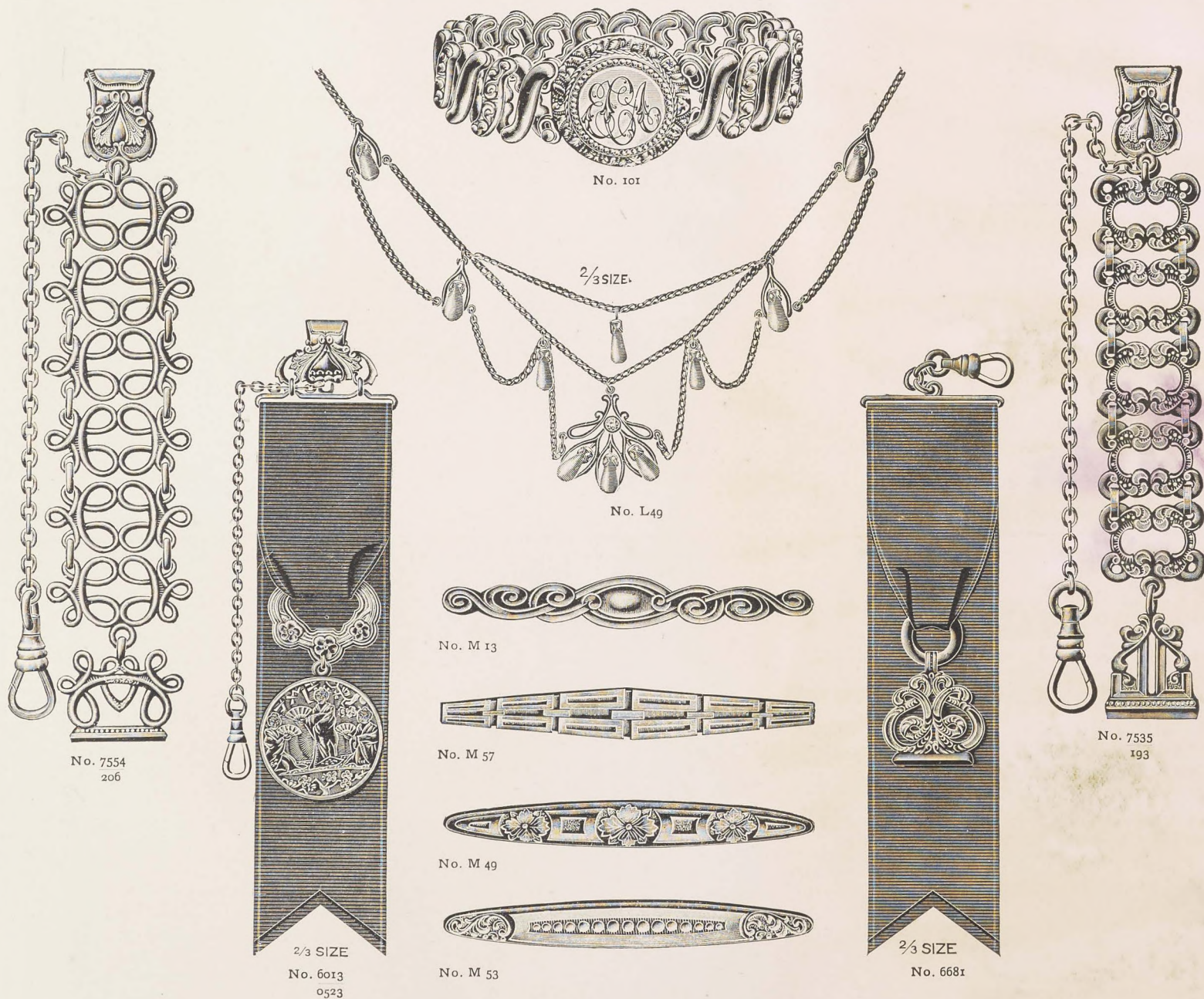
Front View



Interior View

A—Dial
B—Bell
C—Dust Cap
D—Movement

"THE BEST IN THE WORLD FOR THE MONEY"



THE D. F. BRIGGS COMPANY

Attleboro, Mass.

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180 Broadway

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Heyworth Bldg., 42 E. Madison St.

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The Touch That Tells



Complete Fall Lines of our Gold Jewelry

are now ready. Our new styles are distinctive,
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STERN BROS. & CO., 33-43 Gold St., New York
Manufacturers for the **JOBGING TRADE EXCLUSIVELY**

Rings, Brooches, Locketts, Scarf Pins, Bracelets, Link Buttons, Fobs,
Studs, Crosses, Thimbles, Hat Pins, Baby Pins, Tie Clasps, Screw Ear-
rings, Ring Mountings, Bead Neckchains, Charms, Festoons, Match
Boxes, Neck Chains, Cigar Cutters, Pocket Knives, Emblem Goods,
Lapel Buttons, Vest Buttons, Veil Pins.

Our line of Cameo Goods is Especially Complete and Attractive

POPULAR PRICES

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Diamond Cutting Works—142 West 14th Street, New York

BRANCH OFFICES { Chicago, Illinois, 103 State Street
London, England, Audrey House, Ely Place
Amsterdam, Holland, 12 Tulpstraat



Stage Exploitation of Jewelry

Society and the Stage as Factors in the Jewelry Trade—The Jewels of Actresses—Some Remarkable Displays

Important factors in maintaining the prestige of the jeweler and in exploiting his wares are the two closely-allied institutions, society and the stage. It has been estimated that on a "first night" at the Metropolitan Opera House, New York City, upwards of \$25,000,000 worth of jewels have been worn. For such display occasions family jewels are generally taken from their hiding places and at least the greater portion of the gems worn are genuine. The same is not always true of the glittering display which dazzles the audience from behind the footlights, yet the impressive glitter has a beneficial effect on the trade, inasmuch as it stimulates in the beholder the natural love for gems and a desire for their possession.

The fertility of imagination of the theatrical press agent is also an influence of importance in the jewelry trade. The thefts of "priceless gems" from stars of the stage and the flowery descriptions of the pieces of jewelry with which they have been presented by persons of importance from crowned heads to millionaire soap manufacturers, fictitious though they be, cast a glamor over jewels in the popular mind and surrounds them with a mystery and romance that add greatly to their fascination.

Manufacturers are quick to take advantage of the popularity of a play or a performer to advertise some of their specialties. A piece is presented to a leading actress with the request that she permit the use of her name in connection with it, and the permission is always granted in view not merely of the gift, but the advertising which will come from it. Carmen, L'Aiglon, Merry Widow, etc., are names familiar to the jewelry trade, through patterns of articles so styled. The name of an actress makes an excellent advertisement for the article, while the advertising given to it by the manufacturer means a recompensing amount of publicity for the person or character after which it is named.

While, as before said, stage gems are largely spurious, many of the leading actresses pride themselves on the possession of valuable collections which are worn on special occasions or when acting certain parts.

Just what part of the jewels worn by an actress are real and which are paste and part of the glitter which carries out her dress scheme, usually is a point wondered about by the women of the audience. The plays of last winter gave the stars few chances to wear jewels except where the scene allowed of some baubles which could be picked up in the country where the scene was laid. Margaret Anglin had some fine heavy pieces of carved silver filigree—if filigree can be called heavy—and she also had some Mexican bracelets of older and more curious workmanship. One of these weighed several ounces and spread out into a great medalion at the back of the wrist.

Special Pieces to Suit Play Frances Starr wore a garnet bracelet in "The Rose of the Rancho" when the play opened in New York. It was a curio

made in the period of the play and of Spanish workmanship. In the scene in which she throws

out her arms she threw it off into the audience one night. One would have naturally supposed that somebody would have taken pains to return it to the pretty star, but evidently it was considered of more value as a souvenir than even as the means to an interview. The lucky girl who got it had it handed to her by her escort, who caught it, and evidently considered it as a heaven-sent souvenir.

Ethel Barrymore is one of the least bejeweled women on the stage. She wore a long chain of pearls with her white gown in the second act of "Her Sister," and with her green gown in the last act she had on another long chain set with long, slender green stones. There were green pendants attached to it and the metal workmanship was of fine and unusual design. She wears few rings and



Fritzi Scheff, opera star, wearing some of her famous jewels

on the stage she usually wears only one seal ring on her little finger.

Lillian Russell's Handsome Jewelry

Lillian Russell wears but few rings on the stage, but these are priceless. A white pearl and a black pearl solitaire of enormous size worn on the same finger of one hand and a giant ruby on the other are conspicuous from any part of the house. The ruby is surrounded with diamonds and she is apt to flash a bangle set with diamonds, rubies and emeralds on her wrist. These are small but of exquisite workmanship and extremely brilliant. She also wears a diamond bangle next to this, and when she has an evening scene she is apt to wear her pearl necklace, which is made of enormous pearls perfectly matched.

One of the gowns which Fritzi Scheff wears in "Mlle Modiste" literally is loaded with jewels. They are mostly diamonds, and so far from being imitation, as they are often taken to be on account of their abundance and the promiscuous way they seem to be scattered over the dress, they are of the first water, and the dress which they are on was made to fit the jewels instead of the jewels being

made to fit the gown. The front of the gown was especially designed for them.

The Famous Diamond Cross

One of the ornaments is an immense diamond cross. A great pair of diamond and emerald wings are set across the high corner of the corselet, which is especially sloped up here to show it. The body of this bird or insect is the smallest part of it, a mere wire, while the wings are enormous, holding a great quantity of stones of the first water. A big diamond arrow with a pearl in the center and a diamond horse-shoe are among the things worn, and a diamond brandenburg or bunch of ropes stretches across one part of this wonderful bodice. There also is a large pearl with three big diamond pendants from it, a diamond chain is worn around the neck with two pendants ending in big diamond drop, and last, but not least, is a pearl dog collar with diamond slides. A large pearl piece with diamonds in the center and a big diamond crown is fastened to one shoulder. Two or three of these pieces are so valuable that even the extra strong guard pin with which they are all fitted, is not trusted and the maid secures them every night with needle and thread.

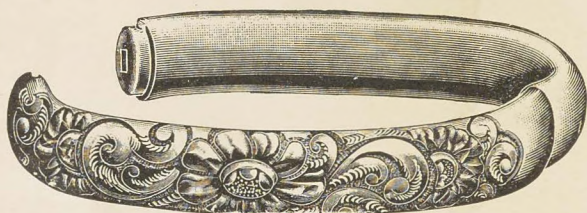
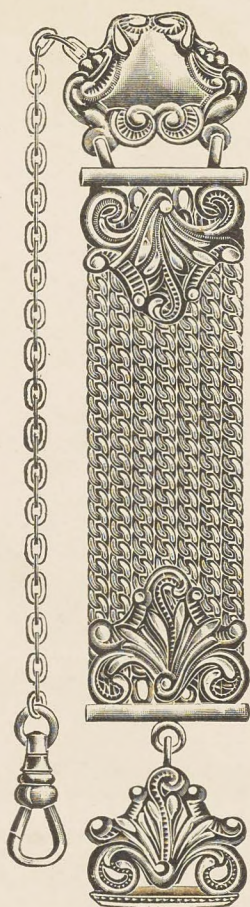
Of all the "day jewelry" affected by actresses probably Adele Ritchie excels in quantity. She abounds in chatelaines, belt buckles and gold bags, and even her parasol handles often are jeweled. She is particular about her earrings and how she wears them. She has coral ones which go with a smoke-colored costume, and white which she wears with pale green, and turquoise which are worn with grays of a color shade.

Gems to Match Dress Material

The vogue of the semi-precious stones has admirably served the purpose of the stage folk, as it has enabled them to make pretty displays of jewels at moderate cost. They have also cultivated "the gem to suit the dress" idea. Nowadays it is a fad to make things match, and if my lady's outfit hints pink, or pink is her color, then she is in for corals. Of these there are many—dark, light, rose and pink. Hatpins, brooches, pendants, combs, bars, stickpins, necklace, watch, bracelet and belt buckles must match with settings of coral or some stone that reflects pink or rose. So it is with the other colored gems.

Of new trinkets for spring there is no end. Pins run to bars and crescents, and copper is as fashionable as gold. The trinket counter is a place to linger over, the novelties being interesting and tempting. Horseshoe pins are just the thing and veil pins can be had in many novel designs. Neck chains are still popular. In fact, many young girls would not consider themselves dressed without the butterfly tie and the bright bead necklace to give its touch of color. Imitation jade, lapis lazuli, a coraline as red as sealing wax, a turquoise blue, in graduated-sized beads and of lovely colors offer temptations to the jewelry wearer.

Of cuff pins and those little necessary pins that hold the back of the collar there is no end. Even the cheapest is a work of art in engraving, setting and finish. Who would have dreamed of buying a set of little pins for a quarter that looked really well; and being able to make a selection in colors of gold finish and to get black, lavender or white enamel if one was in mourning. Modest little pins an inch and a half long set with a single pearl are in best taste.



MARSH BRACELETS

YOU KNOW THEM

Representing all that's good and up to date
in Secret Joints

FOB CHAINS that are made to
WEAR and satisfy the **WEARER**
Designs the latest

The name C. A. M. & CO. stands for
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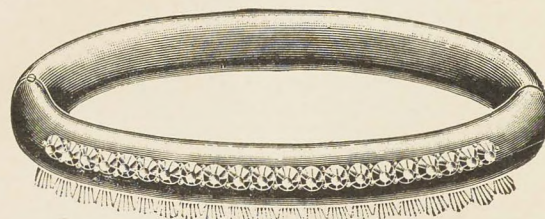
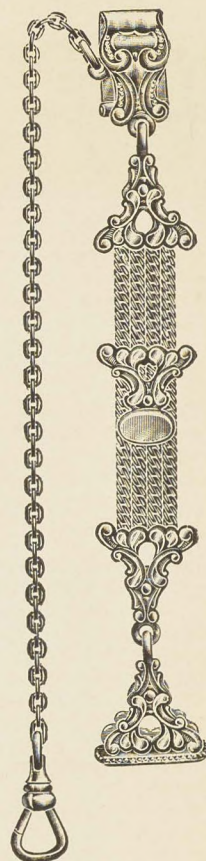
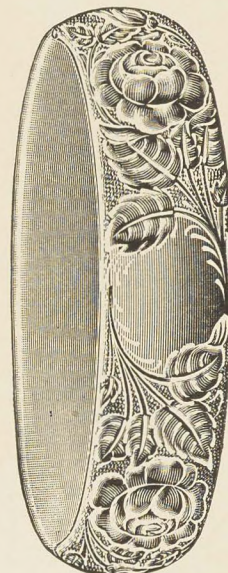
Their guarantee unquestioned.

If it's a MARSH CHAIN, it's a good asset
in your stock, and a maker of satisfied
customers.

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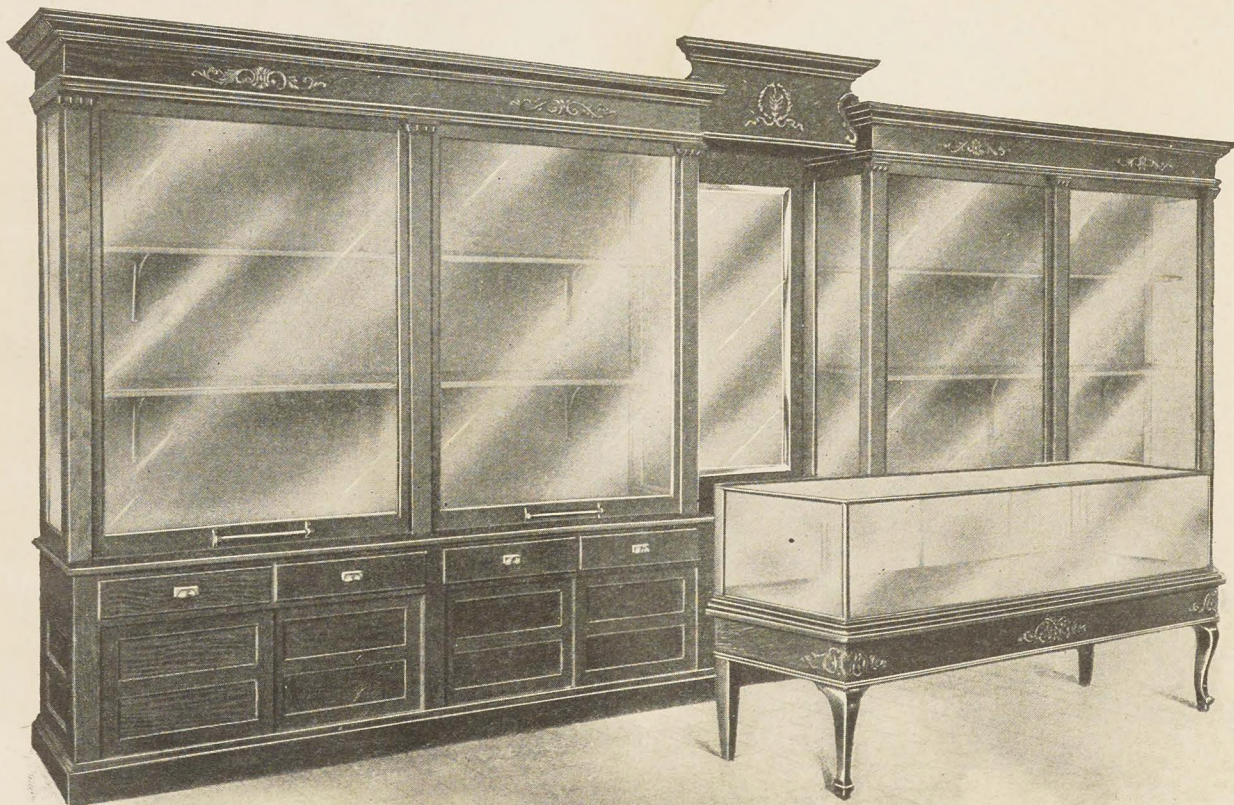
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A. P. WOOD
420 SO. BROADWAY
LOS ANGELES
PACIFIC COAST
REPRESENTATIVE



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11 to 17 N. Ann St.
Chicago



COLONIAL WALL CASE No. 123
8 ft. long 8 ft. high outside
Upper part is 18 inches deep inside

SPECIAL No. 107 B
Counter Case and Table

"THE BEST OF EVERYTHING"

Makers of
High-Grade
Jewelers'
Fixtures

Send
Floor Plan
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DETROIT LETTER

National Organization of Wholesalers

Detroit wholesalers are busying themselves now to make a success of the meeting that has been called for June 10th at the Hotel Pontchartrain, at which a national association of wholesalers and jobbers is to be formed. That date was decided upon at a meeting held May 18th, and plans for the details of the convention were begun at once by Secretary Chas. A. Berkey. So many and so enthusiastic have been the replies received by the Detroit Jewelers' Board of Trade that the consummation of the organization on a sound basis seems assured. Word has been received from St. Louis, Cincinnati, Cleveland and other cities, giving pledges of co-operation and indorsing the aims and objects of the proposed body. It only remains now to get together and exchange ideas as to the best methods to be followed in unitedly combating trade evils and combining for the best interests of the trade as a whole. When the wholesale merchants from other cities are not busy with the serious affairs of the meeting, their brothers here hope to show them a pleasant time in looking over Detroit and its surroundings. This has grown to be a city of conventions from its many advantages in taking care of such gatherings and the opportunities offered for every kind of amusement. There was some slight friction in regard to the place of holding the convention. The Detroit wholesalers took the view, however, that, as the idea of a national organization originated here, it was but fitting to hold the convention in the City of the Straits. At the meeting at which the date for the gathering was chosen it was decided to send a representative from the Board of Trade to Chicago to discuss matters with the wholesalers there. It should be added that the Detroit Jewelers' Board of Trade comprises three branches of trade—manufacturing, wholesale and optical—each branch having its own committee and looking after its separate interests, while all combine for united effort in matters affecting the entire trade.

Against Fake Auctions

The movement here in regard to the licensing of auctioneers, to drive out and keep out fake auctioneers, is nearing a successful termination. The local auctioneers have fallen in line with the general ideas of the ordinance drawn up by the jewelers and have even added some provisions to make the proposed measure more effective. Two hearings have been had before the council ordinance committee, the first being attended by a score of the most prominent wholesale and retail jewelers in the city, the second by a committee of jewelers and one of auctioneers. One section which has been added provides for a residence in the city of three months before an auctioneering license can be granted. This will shut out itinerant auctioneers, while local men will not care to take a chance of losing their business by running counter to the strict provisions forbidding sales of cheap goods by misrepresentation.

School of Watchmaking

The plan of starting a watch-making school has taken definite form at last, after several months of discussion, and will be an accomplished thing by next fall, when the local Y. M. C. A. moves into its new quarters. The board will co-operate with the Y. M. C. A. in the project, especially in its installation, and it is assured that positions will be found for all competent graduates, as experienced all-around watchmakers are not too numerous in this section. It is planned to broaden the scope of the trade school as it grows, all branches of the business, such as stockkeeping and salesmanship being included.

Negotiations that have been on between the Detroit wholesale houses and the State association of retail jewelers and opticians for a big gathering in August have not ended as was hoped. It is the desire of the Detroit firms to have these

meetings held at the same time as the buyers' excursion of the wholesalers' association, August 10th to 15th. A programme of entertainment has been laid out for that week that will attract retail merchants from all over Michigan, and it was thought that this would tend to aid in the success of the State association meetings. The retailers, however, want to hold meetings prior to the national gatherings. It is possible that it may be arranged to have business meetings here in July and later have meetings in August, at which the reports of the national convention delegates can be given and the members be entertained as the wholesalers desire.

The meeting of the Michigan Society of Optometrists has been called for July 8th and 9th. The principal business will be in connection with the bill which the society will have presented to the next legislature.

Considerable comment has been aroused by the City Service League, an offshoot of the Board of Commerce, in regard to the contract for a large number of buttons which it is selling, bearing the inscription: "In Detroit Life is Worth Living." The contract for these was given to an outside firm, the league officers being apparently unaware that a number of Detroit firms make a specialty of just this kind of work. When the local press found out what had been done, the City Service League was made the subject of considerable roasting.

The May meeting of the Jewelers' Board of Trade was also the annual, and all the old officers were re-elected unanimously. Mr. Frank Kennedy, of the Kennedy Optical Co., is the president. Chas. A. Berkey, of the Chas. A. Berkey Co. is secretary, while Richard Rogers, of Kunz & Rogers, and A. E. Patterson, of Burr, Patterson & Co., are vice-president and treasurer, respectively.

Several local jewelers were called in during the grand jury investigation of certain members of the police department to identify diamonds alleged to have been given high officials for protection. They failed to identify the stones.

R. J. F. Roehm & Co., who moved into their new store, at Wilcox and Farmer streets, May 1st, had an unfortunate beginning. A week later their store was entered in the evening and \$300 worth of gold fobs and other small jewelry was taken. This line had been left out of the safes accidentally that evening, and the theft took place during a half-hour that the store was untenanted, one of the members of the firm coming a few minutes later, but not discovering the loss at once. The formal opening of the store took place May 21st an especial display of diamonds being made. The store is smaller than the premises formerly occupied by the firm at 184-186 Woodward avenue, but is more convenient to the factory department. The fittings are of mahogany, and the new place is one of the handsomest in the city.

The new store of C. J. Thiry, at 27 Monroe avenue, is due to open June 4th. Mr. Thiry was formerly a member of the firm of Petz & Thiry, 22 Monroe avenue, which has gone out of business. Such portion of the stock as was not sold at auction has been taken over by Thiry, F. X. Petz retiring. A temporary office was established after May 15th in the Peninsular Savings Bank Building.

Trade Improving

Trade in Detroit is much better now than at any time since the financial stringency began last fall. The local factories are getting back to the regular force of employees and the effect of increased pay-rolls is felt by the jewelers. Among the industries in which there has been an increase are the automobile factories, stove works, iron

works and salt products concerns. Although it is not expected that times will be as good as the maximum again until after the presidential election, it can be said that the improvement has already been great enough to take the edge off complaints.

Oscar B. Marx, president of the Michigan Optical Company, will have something to do with president-making as a change this summer. He is to go to the republican national convention at Chicago as an alternate delegate from the first congressional district of Michigan.

George Chambers and Ward Switzer, both of Mt. Clemens, state that business is picking up in the bath town, although it was rather dull during the winter.

Some of the local jewelers who are members of the Board of Commerce are planning to take in the trip to Sault Ste. Marie on board the new \$1,250,000 steamer *City of Cleveland*, which has been chartered for a three days' trip, beginning June 4th. W. C. Noack, of Noack & Gorenflo, is a member of the committee which will have to do with the entertainment of merchants from the towns visited, the idea being to invite them to inspect the boat and also become acquainted with the Detroit business men aboard her. E. H. Pudrith, of the E. H. Pudrith Company, is one of the Detroit wholesale jewelers who will make the trip.

W. F. King, of Adrian, recently re-elected mayor of that city, was in Detroit last month with his city attorney, looking up facts regarding gas and electric lighting charges. His son, W. F., Junior, has a grievance against fate. Every time he has come to Detroit to watch the Tigers play ball it has either rained or the local team has been beaten.

Hugo S. Fechheimer has moved to 12 Michigan avenue, opposite the city hall. He has a neat and attractive place.

A. Kohn has opened a store at 130 Michigan avenue. He was formerly in the pawnbroking business.

Henry Fink, traveling for Jonas Koch, New York, returned to that city May 20th, after taking the baths for three weeks at Mt. Clemens. He was seized with acute rheumatism while in Detroit and had to cut short his trip.

The stock of Samuel Stern, who left without giving his future address, has been purchased by Noack & Gorenflo at bankrupt sale. Creditors have endeavored to locate Stern, but, so far, without success.

Wallace Kay made a trip last month to Richmond, Va.

It is now expected that the auction sale of the W. A. Sturgeon & Co. stock will not be concluded before September.

E. H. Pudrith returned early in the month from an eastern trip, in which he visited New York, Philadelphia and Washington.

Frank Dyer, of Caro, was a visitor to the city about the middle of the month.

The L. Black Company, 156 Woodward avenue, is now controlled by M. Black, he having purchased the stock at probate sale.

C. E. Marvin has moved from Howell to Lansing, locating at 106 Washington avenue, North.

H. S. Dorweld, of Luths, Dorweld & Haller, made a trip through the upper peninsula and the Thumb during the month.

Daniel Anglim, who died May 1st at St. Mary's Hospital, was formerly in the jewelry business in this city, having conducted stores at 98 Michigan avenue and afterward at 137 Michigan avenue. He was of Irish birth, but was brought up in Detroit and spent practically all his life in the jewelry business, retiring only a few years ago. He was 65 years of age at the time of his death. The funeral was held Monday, May 4th.

The May buyers' excursion was not an unqualified success, bad weather interfering largely with the attendance.

Among the retailers who called on the Detroit wholesale houses during the month were: Fred N. Pauli, Pontiac; E. H. Whitney, Lansing; R. Friday, New Baltimore; J. W. Berry, Vanderbilt; Ray Gregory, Lapeer; F. Brady, Rockwood; W. H. Baxter, Birmingham; A. Mendelson, Hillman; Mrs. O. C. Wheeler, Saline; E. H. Cressy, Saline; W. W. Bridges, Marine City.



President Frank Kennedy

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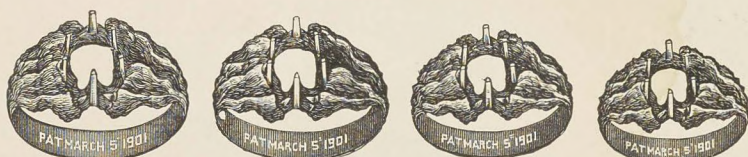
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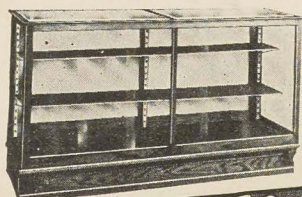
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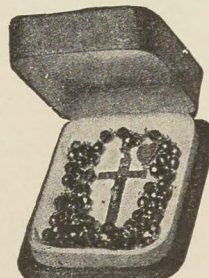
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INDIANAPOLIS LETTER

The railroad commission of Indiana issued an order on March 30th to reduce on an average of from 10 to 12 per cent. the express rates in the State. On May 2nd six express companies doing business in the State brought suit in the United States District Court against the commission to enjoin them from taking steps to reduce the rates, claiming that they could not do business if the reduction was allowed. The opinion and order of the commission followed an investigation made several months ago, when it was found that the total annual business of all express companies in Indiana is about \$1,000,000 and that the reduction would mean a decrease of more than \$100,000 a year in the money paid out for express services. The new schedule was to go into effect May 1st. Instead, the suit was filed in the Federal court and litigation will follow. In transferring the case from the State to the United States courts, if an appeal is taken it will reach the United States supreme court earlier, and this will give the express companies a decided advantage. As by far the greatest number of their shipments are made by express, the reduced rates would mean much to the jewelry jobbers and manufacturers, and the legal fight will be followed with much interest.

A sentence of one year in the workhouse and a fine of \$50 was passed on Bert Waterford on May 4th by the verdict of a jury in the criminal court. Evidence introduced showed that the front window of the Carl Rost jewelry store, in North Illinois street, had been broken and jewelry taken out to the amount of \$400; that Waterford, under the name of Bradford, offered a watch and a ring of the property stolen from the Rost place to a Louisville jeweler. The Louisville jeweler identified Waterford as the man who offered the jewelry and Mr. Rost identified his property. Waterford's only defense was a general denial of the entire affair. The robbery occurred February 2nd.

Thieves recently broke the show window at Ertel's pawn shop, 209 Massachusetts avenue, and got away with several silver watches and twelve revolvers.

The Ontario Silver Company, at Muncie, Ind., has obtained a five-year contract for power from the station of a Muncie electric light plant. Some time ago the silver plant threatened to leave Muncie on account of being unable to secure railroad rates for coal.

J. E. Wood, for many years associated with the jewelry firm of Dauchert & Axline, at Noblesville, Ind., is now with Edward Williams & Co., at North Vernon, Ind., to which city he has removed his family.

J. Henry Smith Company, Greenfield, Ind., has been incorporated under the State laws, capital, \$2500, to deal in jewelry. The directors are J. Henry Smith, Wilhelmine H. Smith and George R. Bodine. Mr. Smith had conducted an optical business in Indianapolis for several months, but recently returned to his old home and former place of business—Greenfield. He is showing a nice line of goods in attractive quarters. Mr. Smith has an up-to-date optical department.

Brooks & Chapman, enterprising jewelers, of Madison, Ind., have added a splendidly equipped workshop, where they do all their own repair work and replating. Their jewelry store is one of the prettiest and best equipped in the State.

C. H. Ankeny, well-known jeweler, of Lafayette, Ind., upon a recent visit to Indianapolis, purchased an automobile and chauffeured it home.

M. L. Heaton, of Manila, Ind., accompanied by his family, attended the first circus performance given in Indianapolis this season.

M. A. Neds, of J. H. Neds & Son, Elkhart, Ind., took the examination before the State optical board in this city on May 4th. He will have charge of the optical department of the home store.

E. E. Mosiman, of Bluffton, Ind., is convalescent after a long and serious illness. His friends in Indianapolis are glad to learn of his restoration to health.

Ralph H. Woods, of South Bend, Ind., having successfully passed the necessary examinations, is now a member of the physiological section of the A. A. O.

J. L. Hastings, jeweler and optician, of Sheridan, Ind., is offering his jewelry business, established eighteen years ago, for sale. A recent death in his family has brought about a change in Mr. Hastings's business plans. He contemplates settling in the East.

J. E. Sanders, jeweler, doing business in Walkerton, Ind., suffered a heavy loss from a fire that destroyed a number of business houses in that town on May 5th. Mr. Sanders's loss on stock was about \$3500; loss on building about the same, with a small insurance.

A. C. Woods, formerly traveling representative for the wholesale optical house of S. T. Nichols & Co., in this city, is now with the Stevens Optical Company, and represents that firm in Indiana and Illinois.

M. Meyer, Marion, Ind., has removed to a new store room, handsomely fitted up and well stocked.

Edward F. King, of Jasonville, Ind., was a recent buyer in the Indianapolis wholesale market.

H. L. Rost, the well-known jeweler, of Columbus, Ind., visited his brother, Carl L. Rost, of this city, and was also a welcome buyer in the local wholesale market last month.

J. P. Mullally, a generous user of printers' ink, makes frequent changes in the advertisements that he runs in the local dailies. Just before the June wedding season he used a cut of a wedding ring and these lines: "With this ring I thee wed, to love, cherish and protect, until death do us part."

The Business Men's Association of Mishawka, Ind., has adopted the plan of selling town lots to raise a fund by means of which inducements may be offered to manufacturers to locate there.

Claud Howard, Frankfort; C. M. Hunnicutt, Rockville; E. O. Collins, Franklin; O. W. Cox, Marshall; J. K. Kiser, Muncie; S. B. Merrick, Plainfield; E. M. Wilhite, Danville; Turner & Son, Arcadia; Bauchert & Axline, Noblesville, and J. Henry Smith, Greenfield, Ind., were among the May buyers in the Indianapolis market.

The authorities of La Porte, Ind., hope to identify some of the murder victims of Mrs. Belle Guinness by twelve watches found in the ashes of the burned house of horrors. By tracing the numbers of the movements through the watch agents in New York and Chicago, and thence through the jobbers and retailers, there is a chance that the police may find the names of the individual purchasers.

M. L. Roberts has severed his connection with Baldwin-Miller Company, Indianapolis, and resumed his former position with J. F. Ratliff, retail jeweler, at Richmond, Ind.

J. K. Maxwell, formerly with Mr. Ratliff, has started in the watch repair business at Otterbein, Ind.

Charles B. Dyer made a trip to Chicago last month in the interests of his Arts and Crafts Shop. Extensive preparations are being made for the semi-annual exhibition of articles made by the students in metal work and hand-wrought jewelry. The display will be extensive and of much merit as the classes have been doing most excellent work.

Fletcher M. Noe visited the Chicago diamond market last month and made some purchases. Mr. Noe reports diamond sales very good, considering the inactivity of trade generally.

H. E. Cohen & Sons furnished the beautiful silver cup given as a prize in the Board of Trade billiard tournament, held recently.

E. M. Craft, of the A. P. Craft Company, was on the sick list most of last month, but has recovered sufficiently to leave the city on a little recreation trip.

J. C. Walk and Charles Kiefer enjoyed some fine fishing at Lake Maxinkuckee last month, in spite of the fact that rain was their daily portion. Mr. Walk returned much benefited by the change. He was just started on the road to returning health after a long and severe illness.

Charles W. Lauer reports business growing better and collections as easier. The firm took the annual inventory of stock the last of May. C. W. Lauer, Jr., spent all of last month on the road, and reports a fair amount of trade, notwithstanding the fact that some of his route, in the

southern part of the State, was water-bound. Floods and high water were met in all the river towns.

W. J. Hoffman, of Hoffman & Lauer, made a business trip to Illinois last month.

SAN FRANCISCO LETTER

Visitation of the Fleet

The long-expected Atlantic battleship flotilla has arrived in our waters. This magnificent fleet sailed into our harbor on a bright, typical California day—Wednesday, May 6th. It is needless to say that every individual in this section quit work to welcome the superb fighting force. We do not think it is a stretch of imagination when we say that two million eyes saw the fleet sail through the Golden Gate. Our city is blessed with seven hills, wherein we rival Rome as a sight-seeing city for occasions such as the recent one. The fleet will make this harbor a general headquarters and use it as a base of supplies preparatory to their departure for the Philippines, Australia, Hawaii, China and Japan, and will be in this port until July 7th. The fact that this large body of men will be paid off twice in these waters will have a tendency to improve business to some extent, and the fact that both of these payments are practically outside money, will help considerably. We feel that in justice to the enlisted men in the fleet we must commend them upon their behavior while ashore, as we have yet to hear of a single instance where they have broken the peace. The official programme as to the entertainment of the entire personnel is being carried out, and every day means entertainment of one kind or another for at least one-fourth of the entire floating force. It is either sight-seeing, automobile trips, athletic contests, afloat or ashore, banquets, receptions, balls, etc. The Federal forces in the monster land parade of May 7th contained more enlisted men than any previous parade in the history of this country since the famous Dewey parade in New York City, in 1898.

A Destructive Fire

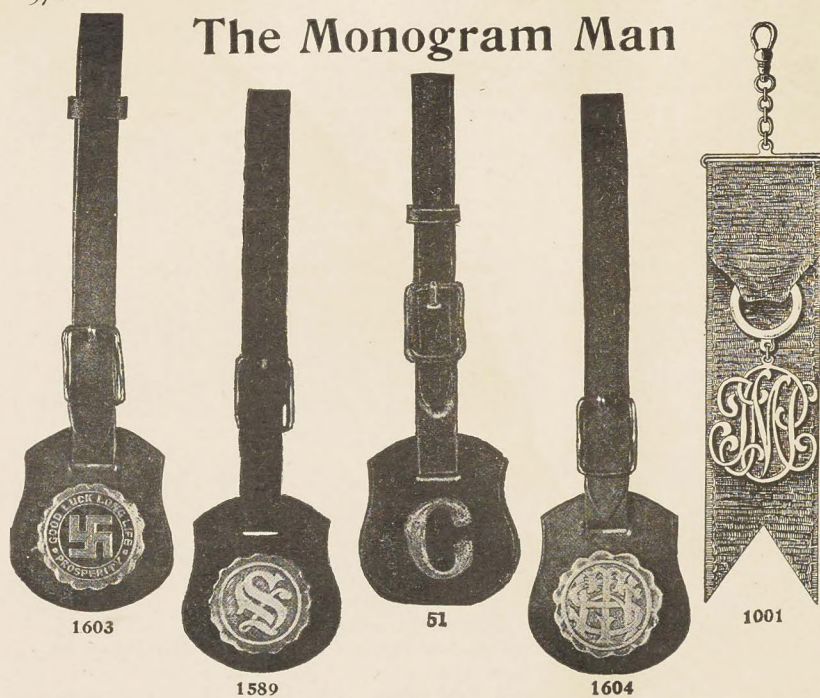
A short time ago, in the heart of the business on Market street, about 10.30 P. M., a fire broke out, destroying, for the time being, about thirty places of business. The fire included all the buildings in the block between Geary, Market and Grant avenue, with the exception of the Mutual Savings Bank Building, where several of our wholesale jobbing houses are located. However, although the wholesalers were fortunate in escaping the blaze, one of our retailers was particularly unfortunate. The retail jewelry house of T. Lundy & Co., doing business at 744 Market street, which was so recently robbed of goods valued at \$39,000, was included in this conflagration. Very little damage was done to the front of the store, the rear suffering the most. With the help of "brothers in the trade," the most valuable goods were carried across the street to the safes of Sorensen & Co., jewelers and opticians. Mr. Lundy, the proprietor of the jewelry store, has been in the jewelry business in San Francisco since 1873. In the last two years he has been the victim of one robbery and two fires having suffered losses in the great fire in 1906. It is believed that his fire insurance will cover his losses at this time. The blows have fallen quite heavily on this firm in the last month, but although the shock was difficult to bear at first, this enterprising house is looking on the silver lining of the cloud, and is already doing business again.

F. F. Barss, one of California's pioneer jewelers, who has been located in Placerville for years, was among the visiting buyers in this market.

J. J. Wilson, the retail jeweler, of Dunsmuir, Cal., attended a communication of the Grand Lodge in this city recently and called upon a few of his friends among the wholesale jewelry trade.

(Continued on page 978)

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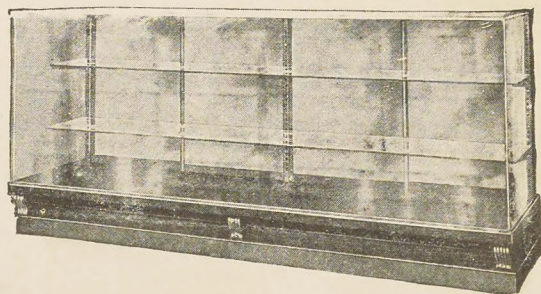
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This is only one of the many display helps for jewelers we have. If you are thinking show cases, write us about your needs. We are always glad to submit ideas and suggestions. Address Dept. C.

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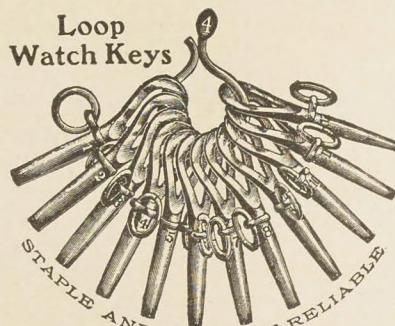
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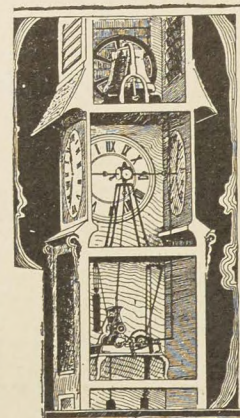
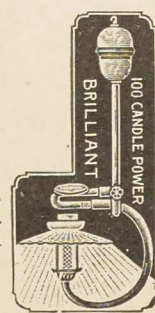
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The public spirit of the business men of St. Louis, which has been such a potent factor in the growth and stability of this city, has again assumed the aggressiveness for which it has been so noted, and as a result the National Prosperity Association has been formed. The primary purpose of this new organization will be to serve as the harbinger of prosperity and to do all it possibly can to counteract the effects of late business depression. James E. Smith, president of the Business Men's League of St. Louis, and E. C. Simmons, of the Simmons Hardware Company, are among the prime movers of the new organization. The recent endorsement by President Roosevelt of the prosperity idea has put new life and energy into the members of the new association and prompted them to launch what they have chosen to call the "employment day" idea. This is the biggest and most difficult task which the association has chosen to tackle, and means that St. Louis business men have elected themselves to take the initiative in trying to induce manufacturers, railroad and other employers of labor to put back to work on a day set for that purpose men whom they let out last fall. Letters stating the purpose of the organization, outlining its attitude towards the "employment day" idea, have been sent to a large list of manufacturers and employers of labor. By comparing notes and asking business houses for data, a canvass of the business situation is to be made. The members of the executive committee believe the results of this canvass will warrant the immediate launching of the employment day idea.

C. L. Glines, of Harrison, Ark., well known to the local trade, was a very welcome caller and buyer on the local market during the past month.

E. L. Meyer, St. Charles, Mo., was on the local market last week replenishing his stock. He reports business conditions as much improved.

Mr. Carter, manager for J. Lowe & Co., of McGehee, Ark., stopped off here for a few days during the past month and called upon his many friends and acquaintances in the trade. He was on his way to his home, at Peoria, Ill.

John F. Doty, a well-known jeweler, of Covington, Ky., spent three weeks in St. Louis enjoying a much needed rest from business. He returned last week and reported a very enjoyable stay here.

S. Arnold, of Texarkana, Texas, was on the local market during the past month.

The buyers on the local market during the past month included A. Gerber, of Edwardsville, Ill.; C. H. Gieske, of Trenton, Ill.; E. H. Goulding, of Alton, Ill.; I. B. Morris, of Perry, Mo., and S. J. Harris, of Warren, Ark.

Wm. Weidlich, of Wm. Weidlich & Bro. Co., made a business trip to Chicago last week.

Local jobbers have received word that the jewelry store of J. H. Greer, Fort Worth, Texas, was damaged recently by fire. The loss is said to be in the neighborhood of \$10,000.

In order that several old employees of the company might be rewarded for their faithfulness, the stockholders of the Hess & Culbertson Jewelry Company recently voted to increase the capital stock from \$65,000 to \$140,000. Among the employees who will benefit by this change are E. K. Helmerich, Arnold Apple and Leo Bogt.

The L. Bauman Jewelry Company is now commodiously situated in its new quarters on the second floor of the New Century Building, Ninth and Olive streets. This prominent corner is a very desirable location, and the company has obtained a five-year lease on it.

John Koetting, a well-known jeweler of Sainte Genevieve, Mo., was a welcome caller in the local market during the past month.

A. S. Smith, of Birmingham, Ala., was a welcome visitor and buyer on the local market during the past month.

Samuel E. Bamber, secretary of the Hess & Culbertson Jewelry Company enjoyed a two weeks' vacation during the past month.

The Elliott Jewelry Company, of this city, was recently incorporated, with a capital stock of \$25,000. The incorporators were J. R. Elliott, F. H. Haverkamp and L. W. Haverkamp, of Troy, Mo.

The Dienstbier Jewelry Company, of this city, was recently incorporated, with a capital stock of \$20,000. The incorporators are F. Dienstbier, George E. Bentz and George E. Bentz, Jr.

H. A. McCorkle, J. Summit and Charles Dsworth are the incorporators of the Diamond Investment Company, of St. Louis, which company was recently granted a license to do business in this State.

The marriage of Leo S. Bauman, treasurer of the Bauman-Massa Jewelry Company and son of Samuel H. Bauman, president of the company, to Miss Aurelia Scharff, daughter of Mr. and Mrs. Nicholas Scharff, took place June 3rd, in the spacious ball-room of the Columbian Club. The bride was attended by Miss Lucille Bernheimer. Mr. Elmer Samish, an intimate friend of the groom, acted as best man. Dr. Sale officiated. The rooms of the club were very tastily, as well as appropriately, decorated for the occasion, and a large number of the friends of the contracting parties were present to witness the ceremony. The bride was the recipient of many rare and beautiful gifts. The groom is well known to the jewelry trade in St. Louis and the West. He is a young man of sterling business qualities and pleasing personality, and his many friends, both in and out of the trade, will join in extending hearty congratulations and best wishes. The bride is a charming young lady and prominent in St. Louis society. Mr. Bauman left with his bride immediately after the ceremonies on a four weeks' honeymoon through the West. They will be home to their friends on Wednesdays in July.



There is little doubt that business conditions throughout New England have improved considerably during the past month, many factories having gone back on full time. Wholesale houses show some signs of improvement already, and the retail houses invariably report having the smallest stock in the history of their business. While the diamond business is quiet, there is a strong desire on the part of most jewelers to buy anything in that line that is cheap. Many of the retail jewelers have purchased diamonds below the market and are holding them as an investment, waiting for a better market to dispose of them.

S. M. Nathan, of Fitchburg, Mass., has been running an auction at his store in that city since May 11th. Many extensive changes are to be made in the store, and the interior will be entirely refurnished. When the alterations are completed it is expected that the store will be one of the finest in Worcester county.

Jos. Cowan, formerly located at 351 Washington street, Boston Mass., has moved into larger and more commodious quarters in the Jewelers' Building, 373 Washington street. The removal has been necessitated by the rapid increase in the business of Mr. Cowan, who, in his new quarters, expects to carry the most complete and up-to-date lines of gold and gold filled jewelry in this section.

W. F. Cushman, of the American Fountain Pen Company, will sail June 3rd for Europe, and will establish a factory in London for the manufacture of Moore's non-leakable fountain pens in connection with their London branch at 91 Aldersgate street, E. C.

Reports from North Attleboro are most encouraging. Many factories which have been shut down have opened again, while others which were working on reduced time have gone back on full time. The resumption of business affects about 3000 hands.

The store of W. B. French, of Turner, Maine, was entered by burglars and goods to the value

of \$300 taken. The safe door was blown off its hinges, and while many nearby residents heard the explosion, none took the trouble to investigate.

Frank E. Ladd has opened a jewelry store at Winchester Park, Mass.

Sylvester D. Sargent, of Gardner, Mass., had goods to the value of \$200 stolen from his store by what was thought to be amateur burglars.

R. H. Burgess, of Greenwich, Conn., has entered the employ of Joseph Goldsmith, who bought him out some time ago.

F. S. Carpenter, of Barton, Vermont, has opened a jewelry store in the Cassidy block.

The D. A. White Company, of Attleboro, has assigned to David E. Makepeace, of Attleboro.

O. L. Anker has sold his watch and jewelry repairing business, at 1346 Massachusetts avenue, to P. Smith and has entered the employ of F. A. Andrews, on School street, Boston.

E. G. Perkins, a recent graduate of the Waltham Horological School, has accepted a position with E. E. Millett.

W. H. Pentz & Co., have opened an establishment in Newton for the repairing of jewelry and watches. Mr. Pentz has been with Rand & Crane, of Boston, for some time past.

George H. Kennison, who for the past eight years has been in the employ of Obed Lyon, of Brockton, Mass., is arranging to start in business for himself.

Simeon W. Jacobs, a jeweler, who some time ago gave Boston and New York jewelers a long fight through the courts on the charge of concealing assets in bankruptcy, succeeded in having the verdict against him set aside in the United States court of appeals. The defendant was sentenced to two years in the jail at Greenfield, Mass. The case will be tried again.

E. A. Marsh, superintendent of the Waltham watch factory, resigned recently. J. W. Burckes, former assistant superintendent, succeeds Mr. Marsh, while E. C. Richardson has been appointed assistant superintendent.

Freeman & Taylor, one of Boston's old-time jewelry houses, have been obliged to vacate their store, on Temple place, as their lease expires July 1st. The entire stock is being sold out at a discount. The fixtures are also for sale.

The Arcade jewelry store, of New Britain, Conn., was entered by burglars and a large quantity of jewelry was stolen.

Henry K. Simpson, of Attleboro, was recently married to Miss Leah F. Kennedy, of West Mansfield.

J. H. Odell, of West Lebanon, Maine, has established a clock and jewelry repairing shop in Milton, N. H.

A. W. Gunnison has purchased the store of H. L. Hall, at Baldwinville, Mass. Mr. Gunnison is a watchmaker of long experience.

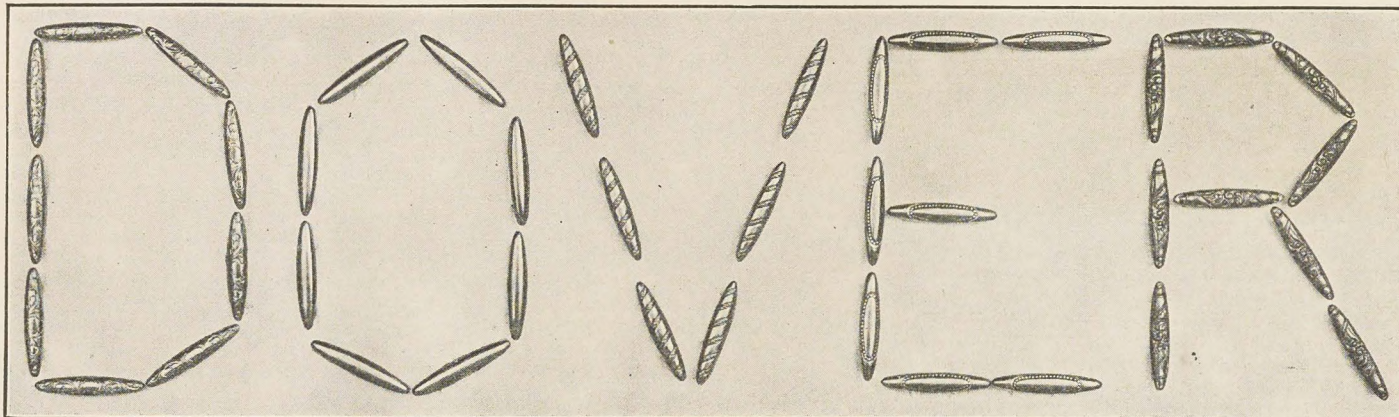
The New England Watchmakers' Club held their last meeting of the year at their rooms May 12th. As President Whilton was absent, Vice-President Garfield presided and conducted the evening's business most satisfactorily. The committee's report on the class of truing and poising was read, and as there were thirty graduates, the year's work was considered most successful. A vote of thanks was tendered to the instructors, D. A. Gindrat, E. A. Safford and J. C. Sundin. The speakers of the evening were C. M. Smith, T. P. Pratt, L. E. Nichols and Joseph Sundin.

It will undoubtedly be of much interest to know that the firm of Moulton & Lunt, jewelers, of Newburyport, is probably the oldest concern in the United States which has continued in the same business with the same name, that of Moulton.

William Moulton, 1st, born in England	1602
Came to America	1638
William Moulton, 2nd, Born	1640
Joseph Moulton	1680
William Moulton	1710
Joseph Moulton	1740
William Moulton	1772
Joseph Moulton	1814
Edward Moulton	1846
William Moulton	1851

The above is the complete list of names of the men who have carried the present business to its present high standard.

The Dover Handy Pin



The pin with the **live** spring which will positively never lose its life. Made without solder. Its positive back-stop needs no explanation, it will maintain its rigidity. We guarantee every pin against breakage.



See that
positive
Back-stop

Gold-Mounted Combs—We are the **originators** and **only manufacturers** of **INLAID** Combs, embracing every meaning of the word **inlaid**

We also make a distinctively original line of

Scarf Pins, Brooches, Buckles, Lavallieres, Hat Pins and Bracelets

It is our ambition in designing to please the composite taste

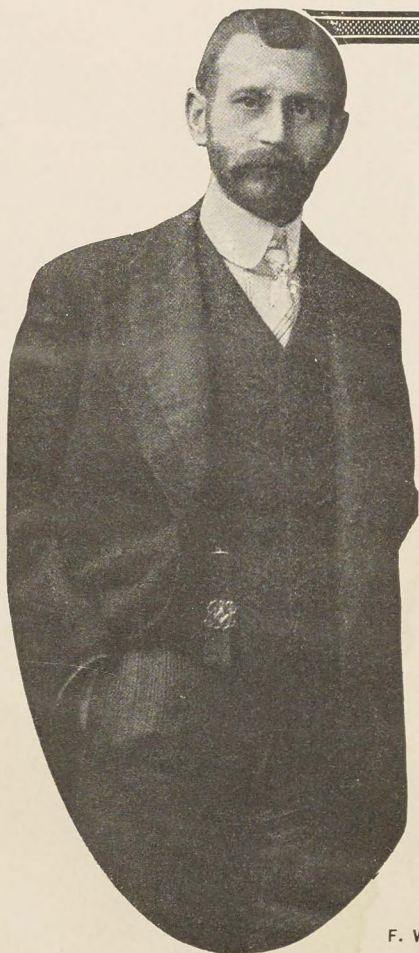
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Geo. W. Dover
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Are You Interested in Becoming a Thorough, Practical Watchmaker, Engraver and Optician? If so, I want you to read this advertisement.

I want every ambitious young man who desires to learn the jewelry business to send for our prospectus.

I will prove to him that we can teach him **Watchmaking, Engraving and Optics** in a much shorter time than by any other method.

I will prove to him that he will save many dollars by taking our course.

I will prove to him that there is not another institution in this country that provides the kind of instructions that we give.

I will prove to him that we can make a high salaried Watchmaker, Engraver and Optician of him in a short time.

This should interest every young man who desires to become a first-class workman.

Send to-day for our prospectus, a postal will bring it.

The Philadelphia College of Horology

F. W. SCHULER, Principal

Broad & Somerset Streets, PHILADELPHIA, PA.

ESTABLISHED 1894

COLLEGE OPEN ALL SUMMER

DALLAS, TEXAS LETTER

The prospects in Texas may be considered a trifle better than last month, as the jewelers are enjoying a little better business. Commencement exercises all over the State help in the improvement. The Dallas lodge of Elks are making their final preparation for the entertainment of the Elks' convention, July 12th. Arrangements have been made to provide for the comfort of every delegate. The programme for the great reunion includes, among other things, the entertainment and luncheon for the members of the grand lodge and their ladies, from 12 to 3 P. M., on Monday, July 13th, at the State fair grounds. On Tuesday the biggest barbecue ever held in the world will take place, to which will be added the attraction of a Mexican luncheon, vaudeville and athletic exhibition. On Wednesday is the governor's dinner and massed band parade, the drill corps and marching club contest. On Thursday will be held the big parade, beginning at 9 o'clock in the morning. Throughout the week will be a series of open-air balls, which have proven so delightful in the Southland. This convention is looked forward to with great interest, and it will be a great event for our city.

W. F. Dietrich, of Kaufman, Texas, is closing out his business and intends operating the Cleburne store only, which he has recently acquired.

Jesse Smith, of Canton, Texas, was a buyer in the Dallas market lately, selecting a few fill-in goods.

A. T. Odeneal, of Rotan, sustained a great loss in the death of one of his daughters. A host of friends join in sympathy with him in his sorrow.

J. V. Searcy, of Atoka, Okla., has just returned after a visit to Texas. While in the State he stopped in Dallas and called on the wholesale trade.

J. K. Hutton, of the J. K. Hutton Drug Co., of Wolfe City, Texas, sold his interest in that business on March 26th to W. J. Harvey and J. J. Carter, who will continue the business under the style of Hutton Drug Co.

W. H. Sherrill, of Royse, Texas, was seen among the Dallas buyers last month.

T. H. Benninger, of Cleburne, Texas, spent a few days in Dallas last month.

Mr. Patterson, of Patterson & Evans Jewelry Company, of Uvalde, Texas, had the misfortune to lose his wife a short time ago. His many friends extend their heartiest sympathy.

F. Walter Smith, brother to E. R. Smith, of McGregor, Texas, died at San Antonio, Texas, May 11th. He was stricken with pneumonia several days previously. The deceased was in his thirty-ninth year, and was traveling for a San Antonio firm before his last illness. The body was brought to McGregor for burial. Mr. Smith leaves a wife, two sisters and three brothers.

Dickerson & Plath Company, of this city, have opened an engraving, watchmaking and jewelry repairing school. They have a thoroughly equipped school for a practical course of instruction in each of these trades, and both are expert workmen, capable of meeting all the requirements necessary for conducting a school of this kind.

The firm of O'Brien & Robinson, of Stanton, Texas, recently dissolved. C. S. Robinson, of the firm, now continues the business alone.

S. R. Glidewell, of Whitewright, Texas, filed a voluntary petition in bankruptcy May 14th. Assets are given at about \$900 and liabilities at \$3000.

R. L. Costan, of Fort Worth, Texas, spent a few days in this city last month.

T. D. Houghton, with H. H. Hawley, wholesale jeweler and jewelers' supplies, of this city, has just returned from a two weeks' vacation. Mr. Houghton reports that he had a most enjoyable time, and these days of rest will be a great benefit to him.

Joseph Edwards, of Italy, Texas, recently sold a portion of his stock to a local druggist and has

moved the balance to Duncan, Okla., where he has purchased a bankrupt stock. Mr. Edwards has been in Texas for some time, and we regret to see him leave.

B. B. Crowder, of Taylor, Texas, was a buyer in the Dallas market last month.

The Strange Jewelry Company, of Sherman, Texas, was represented in the Dallas market during the month of April by R. E. Strange, of that firm.

Aug. Franke, formerly of Cuero, Texas, is now located at Stockdale, Texas, and seems to be well pleased with his new location.

W. R. Jay, of Rockwall, Texas, paid his respects to the wholesale trade while here a short time ago.

Will Evans, of Murray & Evans, was a visitor in this city the first part of May.

R. H. Dobyns, of Dobyns & McBurnett, of Stamford, Texas, recently purchased the interest of his partner, and is continuing the business in his own name.

M. W. Walker, of Waxahachie, Texas, was in this market the first part of May buying a few needed articles for his business.

W. H. Fish, of Corsicana, Texas, was a welcome visitor in this city a short time ago.

Will Fry, with C. L. Norsworthy, wholesale supply house, of this city, left the first part of this month for San Francisco, Cal., where he will spend his vacation. Mr. Fry will be gone about a month or six weeks.

E. E. Keel, optician, of this city, sold out his business recently to J. K. Martin.

Geo. J. Mellinger, secretary and manager of the J. J. Sweeney Jewelry Company, of Houston, Texas, spent a few days in this city a short time ago with the Houston Business Men's League on their annual trade excursion.

A. H. Kerr and wife, of Corsicana, Texas, spent a few days in this city recently, and while here paid his respects to the wholesale trade.

L. F. Ely & Sons, of Sherman, Texas, have recently dissolved, L. F. Ely retiring and the two sons continuing under the old name.

T. P. Seay, who has been with L. Niveth, of Bonham, Texas, passed through Dallas the first part of May on his way to his old home, Jacksonville, Texas.

J. J. Spurlock, of Jacksonville, Texas, spent several days in this city during May.

San Francisco Letter

(Continued from page 969)

Nathan Wolff, a jeweler, who has been in business in Portland for twenty-five years, was murdered by robbers last month. Wolff evidently was first shot in the neck and then beaten to death with a hatchet. His face and head were literally hacked to pieces. There is no doubt that robbery was the only motive for the crime. The "pledge" safe and cash drawer had been rifled, but the jewelry safe apparently was unmolested. Wolff carried a large stock of diamonds. It is believed that robbers secured jewelry and money to the amount of \$1700. The only clue found on the premises was a blood-stained collar and necktie. The crime was not discovered until several hours after it had been committed and the police believe they will have a hard time in locating the murderers.

The Nordman Bros. have added W. Maher to their traveling force. This party was formerly in the employ of the Roy P. Mathews Company, and will now travel in the interests of his new firm's material department.

C. W. Wickersham, of the well-known jewelry firm of the same name, of Bakersfield, Cal., was in this city recently and purchased a fine set of show cases, which he will install in his store in the near future.

Harry Morton and wife are expected back from a visit to the East, where they have spent a six weeks' vacation. Mr. Morton's store, on Broadway, Oakland, had a most attractive window display during Fleet Week.

The California Watch Case Company, who have been doing business on O'Farrell street since

the big blaze, have moved back to the wholesale jewelry center, and are now taking care of their patrons' wants at rooms 249-51-53 Pacific Building, Fourth and Market streets.

William Glinderman has opened another attractive retail jewelry store on Market street, near Ellis, in the new West Bank Building. Mr. Glinderman's original store was located on Third street, in the Examiner Building, before the big fire, since which he has been doing business on Fillmore street. Mr. Glinderman will conduct both stores until all of the retail stores are located in the old down-town business district.

J. Johanson had the misfortune to be visited by fire just in the height of our holiday week. His retail jewelry store, which was located at Mission and Twenty-fourth streets, was burned out. We are pleased to say the question of insurance was adjusted without any unnecessary loss of time, and this enterprising merchant opened up without very much of a delay, so that he is now reaping some of the benefits that are coming to him for his energy.

S. Conradi, who was formerly in the retail jewelry business in Los Angeles, but who retired from same a few months ago, paid his many friends in San Francisco a visit last month.

Harry Jacoby, who conducts a retail jewelry business in Oroville, Cal., was also among the out-of-town craftsmen at the recent meeting of the Grand Lodge of the State of California. Mr. Jacoby while here purchased merchandise to take care of his summer wants.

The Hon. Eugene Wachhorst, of the well-known jewelry firm of H. Wachhorst & Co., Sacramento, Cal., was also among the out-of-town jewelers who were in this city during the exciting times due to the entrance of the fleet in this harbor.

C. P. Kryhl, of the well-known firm of C. P. Kryhl & Son, retail jewelers, of Santa Ana, Cal., was among the out-of-town tradesmen in this market lately. Mr. Kryhl does not visit this section as often as we would like to see him, but was very much impressed with the vast amount of rebuilding since the conflagration.

F. G. Will dropped into this city from Albany, Ore., and paid his respects to his friends in the wholesale trade during Fleet Week and left here for Chicago. Mr. Will expects to be away from his store for at least six weeks and is in hopes that his vacation will be an enjoyable one.

Krenkel & Bosch, retail jewelers of Winnemucca, Nev., were both seen buying in several of the wholesale jewelry houses in this city of late, and returned home again after having viewed the entrance of the Atlantic fleet.

Among the fifty thousand visitors that were in this city incident to the entry of the fleet, THE KEYSTONE correspondent noticed the following, who are allied with the jewelry interests of this section: H. C. Paulson, of the H. C. Paulson Company, Sonora, Cal.; Carl Landecker, St. Helena, Cal.; L. C. Koberg, Heraldsburg, Cal.; A. G. Prouty and wife, of Napa, Cal.; F. B. King, Redlands, Cal.; W. C. Lean, San Jose, Cal.; M. Saier, Fresno, Cal.; C. B. Linn, Prescott, Ariz.; Brousse Brizard, of A. Brizard & Co., Arcata, Cal.; J. Amann and wife, Sisson, Cal.; W. F. Wooster and wife, Prescott, Ariz.; A. H. R. Viera, Honolulu, Hawaii; Mr. Park, of the Boyd-Park Company, of Salt Lake City, Utah; W. E. Clingenpeel, Roseburg, Ore.; Paul M. Stecher, Ogden, Utah; F. F. Daunt, Merced, Cal.; Chas. H. Leggett & Son, Madera, Cal.; T. F. Sourisseau, San Jose, Cal.; Frank Strumm, Benicia, Cal.; C. E. Cochran, Rawhide, Nev.; J. J. Hoin, Antioch, Cal.; Dr. C. A. Jensen and wife, Searchlight, Nev.; A. W. Glover, Kenneth, Cal.; H. H. Wiendieck, Red Bluff, Cal.; W. H. Warren, Sacramento, Cal.; S. Sturmer, Sacramento, Cal.; Herman Brank, Nevada City, Cal.; J. C. Scott, Livermore, Cal.; Frank Golden, Reno, Tonopah and Carson City, Nev.; H. A. Roberts, Chico, Cal.; W. Engel and sister, Marysville, Cal.; W. Mayben, Chico, Cal.; R. Newberg and wife, San Jose, Cal.; W. C. Hauser, Dinuba, Cal.

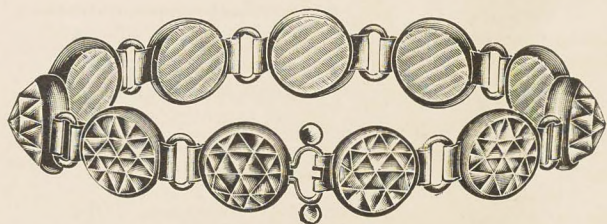
"We have nothing to suggest to improve The Keystone, and will say that we are just as anxious to receive each new copy of it as we are in balancing our each month's business."—J. Goldstein & Co., Oklahoma City, Oklahoma.

The Glenna Reversible Bracelet

Two Bracelets in one, both sides
stone-set and equally beautiful

Made in all Semi-Precious and Imitation Stones

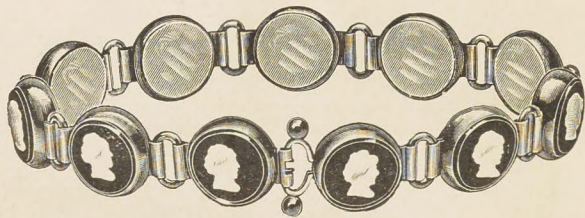
The possibility of change and economy, no less than
the prettiness will appeal to every buyer.



B. Amethyst

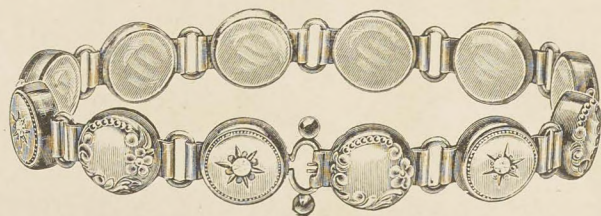
The metal does not come in contact with the arm—
only the smooth surface of the stone.

The extreme of beauty in appearance and comfort
in wear.



B 20. Cameo

The reversible idea will give new life to the bracelet
business and a fresh impetus to sales.



D 3. Plain Chased and Stone Set

Double value at a single price is a strong selling
argument.

The GLENNA is also made in Collarettes

ASK YOUR JOBBER FOR THEM

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ATTLEBORO, MASS.

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Our Latest Creations

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Every jeweler who caters for
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these spoons in stock, as they
have proven ready sellers.

Drop us a postal asking for
samples and prices. We guaran-

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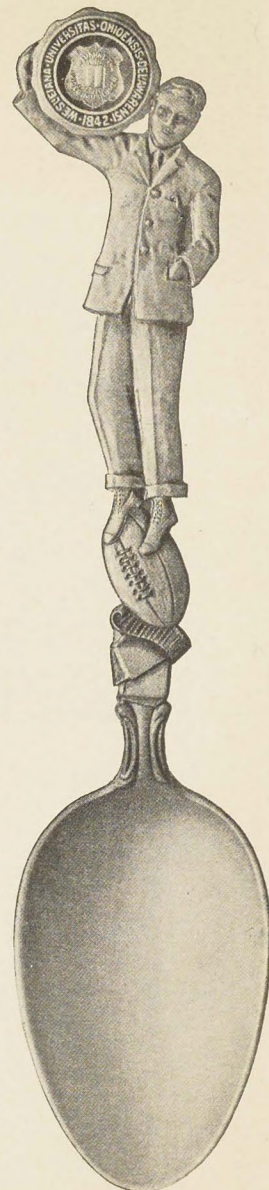
Our line of

College Jewelry,

Souvenirs,

Badges, etc.,

is extensive. If
you have inquiries,
let us know your
wants.



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14 Blount Street

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PLATINUM

and its alloys, made expressly for jewelers' use

GRAND PRIZE, UNIVERSAL EXPOSITION

St. Louis, 1904

GOLD MEDAL, Lewis and Clark Centennial Exposition
Portland, Oregon, 1905

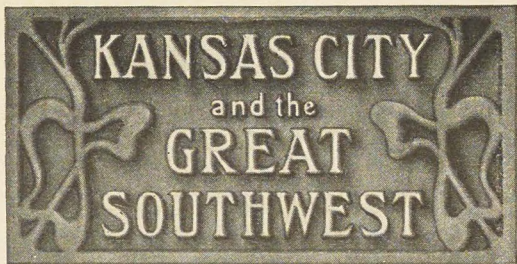
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408 N. J. R. R. Ave.

Newark, N. J.



Kansas City Prosperous

Kansas City doesn't have to talk about herself as a trade center any more. She doesn't have to scream prosperity at every visitor to the city and point out to her business activities. He is blind indeed who cannot see them. To her sister cities, she need send no message of her faith and assurance that the financial flurry is over. Those who keep track of the bank clearings understand Kansas City's position without such messages, for bank clearings are the best barometers of business conditions that the financial world knows. The city has not dropped into the rank held previous to the financial stress, but has advanced. There can be no better indication of the sound, material prosperity which must exist. Kansas City is now generally recognized as the banking center of an immense and growing section. There is no city that can compare with it. St. Louis, her prosperous civic sister, has more than twice the population, yet a recent statement showed only \$49,000,000 in bank clearings as compared to \$34,500,000 in Kansas City.

In every line of business this prosperity is felt, and especially in the jewelry trade. Business is far in excess of that of a year ago—even the most conservative men declare that to be so, and prove their assertions by their books. Eastern salesmen swarmed in Kansas City during the month of May, and the jewelers bought generously. There were so many travelers, and they came in so rapidly that appointments had to be kept within the minute. Nearly all of the wholesale dealers have already sent their employees on vacations, and the first of this month will see unusual activity among the office forces. The travelers out of Kansas City believe that they will have splendid trade later on. Indications point toward good crops and consequential activity. Many new business firms have appeared and there is an ever-increasing demand for tools and materials. Watches are still a little off, but the jewelry trade generally is all that could be desired.

At a meeting of several business men of Kansas City, at the Savoy Hotel, last month the organization of the American Royal Live Stock and Industrial Exposition was determined upon and active steps were taken looking toward the permanent establishment of the exposition at the Elm Ridge Park by the fall of 1908. The meeting was held at the call of Secretary J. A. Runyon, of the Manufacturers' and Merchants' Association, and this organization will be asked to back the exposition. It is the purpose to combine the various exhibits which are being given in this city into one grand show at least one week. The American Royal Live Stock Show will be used as a nucleus, and with it will be combined the poultry show, agricultural exhibits, merchants' exhibits, manufacturers' products, the kennel show, the horse show, racing and a display of farm implements—in fact, every line of industry in Kansas City.

B. A. Bevan will succeed the firm of Brinkley & Bevan, at Haviland, Kans.

Macau Stroud, of Hutchinson, Kans., a student of the Kansas City Horological School, and Miss Alma Almon, of Kansas City, were married last month. A little romance is connected with the wedding. Miss Almon brought a piece of jewelry to the school to be mended. Mr. Stroud saw her, secured an introduction, and the wedding followed a few days later.

Oscar Garrison, a jeweler, of Unionville, Mo., has lately become a Benedict.

Mrs. A. E. Pittinger and children are making a trip through the South. Mr. Pittinger will remain in Kansas City to conduct the Kansas City Horological School and will join his wife later.

Emanuel Smith has reopened in the jewelry business at Billings, Okla.

J. H. Whitney and E. L. Donaldson, travelers for Edwards & Sloane Jewelry Company, spent a week in Chicago recently.

The C. B. Norton Jewelry Company will close at noon on Saturdays during the months of June, July and August.

Leo H. Ludwig, of Edwards & Sloane Jewelry Company, and C. B. Norton, of the C. B. Norton Jewelry Company, were among the members of the Commercial Club who recently took a trip through northern Kansas. They report conditions throughout that territory perfect, and a splendid trade is expected for the coming year.

After the first week in June the Midland Hotel, for many years the popular stopping place of the traveling salesman, will be no more. Preparations were made by the Baltimore Hotel Company last month to vacate, and artisans from the architects office in Chicago were busy taking measurements and figuring on the necessary alterations to turn the hotel into an office building.

A. Y. Boswell, of Tulsa, Okla., has recently opened one of the finest jewelry stores in the new State. The store is beautifully fitted up in mahogany fixtures and the stock is most complete in every line.

R. E. Kehl, a member of the firm of F. H. Noble & Co., Chicago, failed to reach Kansas City last month at his stated time. Mr. Kehl was ill in Houston, Texas, with diphtheria for several weeks.

H. F. Sloane, of New York, formerly of Kansas City, was a visitor here last month.

Samuel Lee, formerly with the C. B. Norton Jewelry Co., is now with the Green Jewelry Co.

Fraser & Cramm is the firm name of a new jewelry concern in Leavenworth, Kans.

Among those who matriculated at the Kansas City Horological School last month were: C. S. Swindler, Pratt, Kans.; Chas. Barto, Kansas City, Mo.; Chester Fisher, Medford, Okla.; F. O. Belknap, Knoxville, Iowa; Don Haylor, Rogers, Ark.; Maurice Durm, Kansas City.

W. E. Newson, formerly in business at Lonoke, Ark., has removed to Belville, Texas.

G. Hallauer, who had charge of the repair department of Guernsey & Ware, has opened a shop in the Altman Building.

O. A. Reed, of Osage City, Kans., a former student at Missman's School of Engraving, has started in business at Effingham, Kans.

The matriculates of the Southwestern Optical College last month were as follows: R. C. Henderson, M. D., Kansas City; B. E. Wycoff, Prescott, Iowa; B. W. Lockner, Kansas City; L. Z. Burr, Kansas City; Dr. F. D. Leiser, Concordia, Mo.; C. C. Campbell, Kansas City; Dr. D. E. Williams, Allerton, Iowa; R. C. Coffman, Ottumwa, Iowa; J. G. Vernier, Kansas City, Kans.; Harriet A. Robbins, Kansas City; C. F. Nilson, Dennison, Texas; Mamie D. Godfrey, Kansas City, Kans.; A. R. Fulkerson, Napasaki, Japan; J. S. Hendricks, M. D., Graunis, Ark.; H. D. Pearce, Kansas City.

W. J. Mulnix, who has been with Casper Gantz Sons, King City, Mo., has opened an establishment of his own in the same town.

The Kansas Bankers' Association held its annual meeting in Kansas City last month.

While digging for worms in a vacant lot, a Kansas City boy unearthed a tin can of jewelry, comprising four gold watches, cuff links, brooches and lockets. The boy took the jewelry to the police station. Record books were searched for the numbers of watches corresponding to the ones found in the can. The owners names were found. The can of jewelry proved to be the loot of burglars who had committed the robberies two and three years before. The police say that much of the burglars' stolen treasure is hidden in this way.

H. N. Konrad, one of Kansas City's well-known jewelers, was killed in an automobile accident the latter part of April. Mr. Konrad, in company with his wife and sister-in-law, was returning from a friend's house late in the evening, when his machine collided with a street car. Mr. Konrad was thrown to the ground and instantly killed. The two women were pinioned beneath the machine. Mrs. Steward, the sister-in-law, died a few hours later and Mrs. Konrad's condition is still serious. Mr. Konrad had been in

business in Kansas City a long time and had a large circle of friends. Recently he had removed his store from Eighth avenue to 810 Grand avenue.

These were among the retail jewelers in Kansas City last month: Carl Ricker, Emporia, Kans.; George Weisgerber, Salina, Kans.; C. J. Reid, Clinton, Mo.; C. D. Hunt, Garnett, Kans.; Mr. Fraser, of Fraser & Cramm, Leavenworth, Kans.; Mrs. B. M. Wiard, Concordia, Kans.; T. S. Lidstone, Dearborne, Mo.; Geo. H. Baer, Lee's Summit, Mo.; H. R. Mester, Atchison, Kans.; F. A. Kessler, Ellsworth, Kans.; P. H. Young, Dodge City, Kans.; C. C. Wedel, Moundridge, Kans.; Carl Hunnins, Leavenworth, Kans.; W. H. Pontius, of F. E. Pirth & Co., Anthony, Kans.; Mr. Towle, of Towle & Johnson, Snyder, Texas; S. C. Wampler, Tarkio, Mo.; D. C. Clark, Lockwood, Mo.; F. E. Pertle, Council Grove, Kans.; J. M. Coffman, Salisbury, Mo.; W. S. Noble, Drexel, Mo.; C. F. Collins, Dunbar, Nebr.; S. F. Huey, Excelsior Springs, Mo.; Walter Sperling, Seneca, Kans.

Death of James Allan

One of the most prominent and highly respected members of the trade in the South has passed away in the person of James Allan, founder and senior member of the firm of James Allan & Co., Charleston, S. C., who died on May 1st at his home, in that city. The deceased was born at Caithness, Scotland October 6, 1832, and came to the United States with his father in 1837, when but five years old. He was educated at the city schools of Charleston. His fondness for fine mechanical work of all kinds inclined him to watchmaking, especially for the delight in which he took in exact machinery and the use of instruments of precision. He studied watchmaking



James Allan

under a German, Francis Stein, for four years from the time he was 17, and gradually made his way to the management of an important jewelry business, now one of the largest in the South.

During the civil war he served as a lieutenant of volunteers at Charleston.

While a most loyal American and a South Carolinian in all things, he was proud of his Scotch ancestry, and served for five years as president of the St. Andrew's Society of Charleston. He was also a Master Mason and a Knight Templar and was Master of Orange Lodge for six years. Early a member of the Presbyterian Church, he was for many years an elder in that denomination. He found his chief amusement and recreation in travel.

He was school commissioner in Charleston for five years and was chairman of the commission for repairs and improvements of the school buildings after the great earthquake in 1886. He was also a director of the Exchange Bank and Trust Company. Highly respected for his integrity and fine character, his death is regretted by a large circle of friends.

If You're After Business

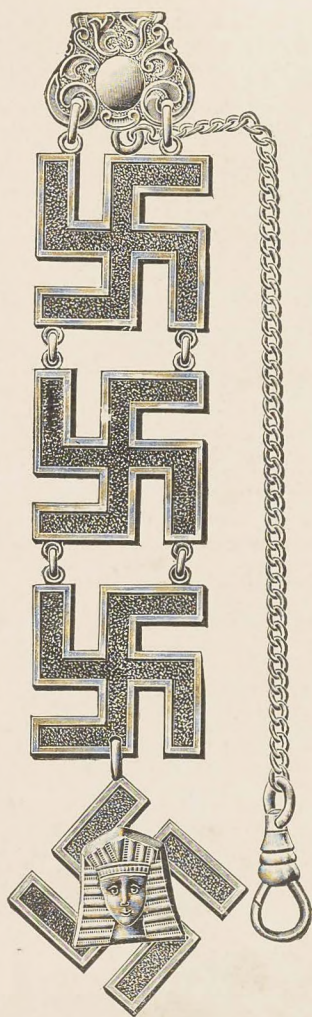
make it a science. Don't trifle with it. Study it. Analyze it.
Do it the best way possible. Push it. Keep after it.
Develop it. Make it your life work.

OUR New Sample Lines are now on the road.

If you will examine them you will find we have been doing just these things. Such success as we have had in the few years we have been in business does not come of itself nor on any hit-or-miss plan. We have endeavored to find out what the trade wanted, then made it to the best of our ability, given over-weight rather than under, established a reputation of shipping more promptly than any other house in the business, have been satisfied with a profit that would move goods quickly.

THERE COULD BE BUT ONE RESULT

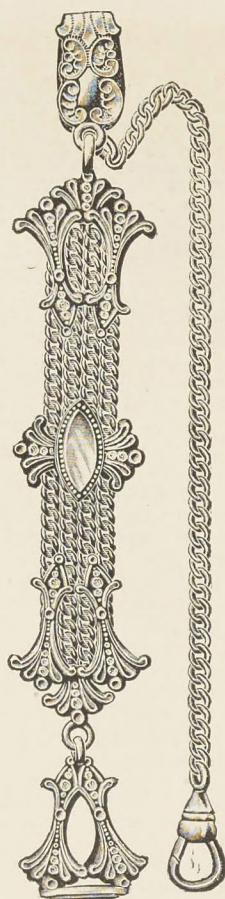
Hundreds of customers will tell you that ours is one of the most satisfactory lines they handle. What more could we wish?



7309 744



2699 / 261C. Genuine Hand-Cut Shell Cameo



8221 / 834

This trade-mark appears inside the cover of every box containing

Minerva Bracelets



8121. 7/8 in. wide. Hand Burnished



8111. Genuine Hand-Cut Shell Cameo

AT the new prices, which pay both the wholesaler and retailer a better profit than before; **Minerva Bracelets** should be one of the most popular and easy-selling lines on the market this season.

The price is fixed and your profit assured.

The **Minerva** has been the most satisfactory adjustable bracelet yet produced, and at the new popular prices will be more desirable than ever.

For less money than the **Minerva** see the new **VESTA** line. The lowest-priced rolled-plate adjustable bracelet made, and superior in construction to any of its competitors.

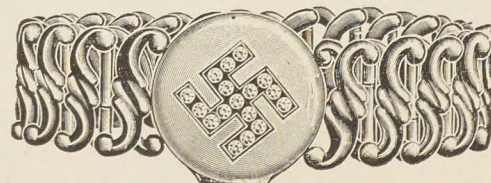
Don't fail to see it.



The Minerva Girl

Made by
THE ELECTRIC CHAIN COMPANY
Attleboro, Mass.

Sold only by
Fontneau & Cook Co.
Sole Sales Agents



6171. Locket

FONTNEAU & COOK CO.

CHICAGO: 1203 Heyworth Bldg.

Attleboro, Mass.

PITTSBURG LETTER

Increased Activity Just prior to the annual commencement season and the June wedding celebrations, there is a brightening up of the retail jewelry trade in the Pittsburgh district that has been thoroughly appreciated this year. The quiet conditions of the spring have been so general and so pronounced that this improvement has perhaps, been more noticeable than usually is the case, and while stocks have not been particularly prepared for the season, there is abundant material in the average run of goods in stock to meet the whims and fancies for gifts for the younger set and for the brides of the month of roses. On the whole, there has been a marked improvement in business during May. The trend has been upward, hesitatingly at times, and apparently standing still, but the gain from month to month has been steady since the first of the year. Steel mills are operating more generally than since the dull season began last fall. There is an increase in the coke operations, and blast-furnaces are more active. The tone of the stock market has been strengthened from month to month, until to-day there is little sign of weakness anywhere in the trading. All this has been progressing favorably in the face of a depressing influence due to heavy defalcations in two of the larger banking institutions of the city, the least of which thoroughly shook the serenity of the community and caused no little wonder at the ability of the banks to withstand the onslaught. Altogether the situation is most hopeful and a continuous improvement is now regarded as a certainty.

Untoward Incidents

In the latter case it was the shortages of William Montgomery, cashier and practical head of the Allegheny National Bank, a man looked up to as one of the most able of the financiers of the city, and yet who has been charged by the government officials with a defalcation of more than a million dollars, a large part of which he was enabled to make restitution of since his arrest. Incidentally, too, there came the sensational express car robbery, almost within the limits of Pittsburgh, when masked men broke into the car of a Pan-Handle train, removed money bags and other valuables, and escaped. In the lost property was a package of diamonds, shipped by Sam F. Sipe, of Pittsburgh, and which was insured for \$500, besides an indemnity of \$50 from the express company. This loss is covered, Mr. Sipe says, by these amounts. The loss is in loose stones and not articles of jewelry, as some reports have stated. The Rodney-Pierce Optical Company, of the Bessemer Building, also lost a package of optical goods in the same shipment, valued at \$27, a portion of which was recovered. The express company states authoritatively that the cash taken amounted to \$451, though others insist that it is much larger. This robbery, an unheard-of thing in the annals of crime in the East, is regarded as one of the evidences of the conditions of business and the fact that no matter how safe any section of the country may be considered, it is not immune from the attacks of the dangerous element. But the serenity of trade has gone on just the same, sentiment has continued to grow more optimistic and the outlook better from time to time. There is no lack of effort on the part of the trade to get all there is out of business. The retailers show remarkable skill in the display of their most attractive lines. There seems to be little new material to base these attractive displays on, but familiar articles are found in new forms and in attractive arrangement. Advertising has been conducted judiciously and with courage. Among the standard lines, such as watches, the trade, while quiet, has been steady. M. A. Mead & Co. note the widespread condition of the dealers of Pittsburgh territory as summed up in the declaration that stocks are low and buying is "from hand to mouth" until better trade is more apparent. While this means conservatism, there are reasons for

believing that it is nearing an end. It became known in Pittsburgh the past week that orders had been issued by the largest manufacturing and mining corporations restricting vacations of employees to dates prior to July, as it was said that there would be no time for them after that date. The great Homestead mills have been gradually resuming operations, until they are more generally working than at any time since last October. This is particularly the case with structural steel mills, while plate mills are working more fully and near capacity.

M. A. Mead & Co. report two men of its traveling force on the road and two at headquarters, with sales low in volume but prospects for excellent trade in the early fall. Manager J. T. Montgomery expects to remove permanently from Pittsburgh to New York the latter part of June, and there give his attention to the building up of the new branch office. He retires from many activities in Pittsburgh, including the leadership of some of the most important committees of the Credit Men's Association and the Chamber of Commerce. Hosts of friends regret his departure from the city, while he himself is looking forward to aggressive work in the new field, ambitious at all times to reach out for greater results and more business.

Gillespie Brothers have finished their usual spring housecleaning, and their handsome establishment, covering nearly one-half of the second floor of the Park Building, has never looked so attractive and cheery as at present. Certain it is that the stocks have never been more attractively arranged and pleasing to the eye. The handsome show windows of Wattles, with their exclusive novelties, are a center of attraction in Wood street, and, if anything, surpass former years.

Terheyden's display, covering his own and adjoining windows in Smithfield street, and E. P. Roberts and Hardy & Hayes are standing out alone in their own characteristic manner in selection of stocks. Northside jewelers and merchants generally appreciate the innovation of a reorganized police protection under the rule of the greater city which superseded the old city of Allegheny.

Most of the retail instalment houses report business in better shape than for some time past. This is one of the peculiarities of this branch of the trade. H. E. Wilkens & Company, who have established handsome quarters in the Smith Building, find the new location in advance of the restricted quarters in Wood street. Smit's pretty store in Fifth avenue is a center of attraction at this time, and he is pushing diamond sales on the instalment plan with much success. Leather goods are showing some activity, and with the new stocks of this spring well distributed, there is a disposition to buy generously for current needs and wants of the people. Heeren Brothers & Co. have been doing a good spring trade, comparatively, and while matters have been quiet in all lines, there is sufficient standard demand to keep the house quite busy.

One effect of the depression in general business, so far as the jewelry trade is concerned, has been the disappearance of a large number of small retailers, who managed to thrive in the more active period. These stores in the outer streets are idle and vacant now, and give mute evidence of the change that has worked so rapidly and in such a pronounced manner. In the heart of the commercial district, however, there is apparently little change. Old stand-by houses that have weathered many business storms in the past continue on their way serenely, and find with the approach of the summer season, golfing, tennis, etc., prospects for a good trade.

The annual meeting of the Credit Men's Association of Pittsburgh was held Tuesday, May 19th, at the Hotel Henry, and reports of committees were presented covering the work. It has been one of the most active years in the history of this organization, and the reports show that the good done has been of special advantage to the jewelry trade. W. A. Given, for seven years president of the association and one of the leading business men of the city, retired from the office, and was presented with a handsome chest of silver as a token of appreciation by the organization. J. T. Montgomery, vice-president, of M. A. Mead & Co., was one of the active spirits in the organization and at the annual meeting.

Toledo, Ohio, Letter

The general report on the jewelry business is that every line is quiet. There is, perhaps, as much doing as was expected, but then, very little was expected. A few firms report that trade so far this month will run fully as high as it did last year, but in nearly every such instance the good showing made is due to some exceptionally nice sales which had swelled the receipts. June brides will not be as fortunate as their sisters were last year and the year before. They will not get as many nor as rich presents as they did. School graduate presents are also falling down some this year. The fact is, many people are short on money and work, and there is no use denying it. An occasional handsome diamond sale gladdens the heart of the local retailers, but they are few and far between. The high-class and expensive goods are not moving rapidly at the retail stores, and few expect an improvement for several months yet. On the other hand, some report a noticeable picking up in business this month. According to the jobbers, the jewelry trade is quiet all over this section, and the same is true of optical goods, though there is plenty of repair work coming in to keep the benches busy. Some of the wholesalers, however, attribute much of the seeming depression to weather conditions.

L. Beckman is now in Germany, enjoying his annual summer vacation. For years he has followed the custom of visiting the old home annually. He will return some time in September.

Henry Froehlich, of New York, was in the city on business recently.

C. Bagley, one of the leading retail jewelers of Duluth, came all the way to Toledo recently to get a look at the handsome new store of J. J. Freeman & Co. Mr. Bagley is about to improve his store, and, having heard of the Freeman store, decided to visit the city before deciding upon plans. While here he was joined by F. N. Wilcox, of the International Silver Company, Will Knapp, of the firm of Bigalke & Eckert, New York, and N. E. Hascall, of the J. J. Freeman Company, who accompanied him to Columbus, where the party viewed the elegant new store of the Hoffman Jewelry Company, in that city.

Friends of Robert Nelson, formerly of the wholesale house of Robert Nelson & Co., will be interested to learn that he has accepted a situation with the Toledo Varnish Company, and has assumed his new duties.

A remarkable group photograph was recently suspended from the wall of the store of the L. Beckman Company. The picture comprises that of L. Beckman and about three hundred others who attended the meeting of the American Association of Opticians, held at Rochester, N. Y., in the year 1906.

The Retail Merchants Board of the Chamber of Commerce is a new organization just formed here. It is a branch of the Chamber of Commerce, and is designed with special reference to the needs of the retailers. Fake advertising schemes is one of the matters which will receive proper attention. At a recent meeting the following officers were elected: President, John W. Lewis, Jr.; vice-president, J. C. Kapp; secretary, W. A. Eversman; treasurer, N. Nathan. Many of the leading jewelers have joined the organization, among whom are J. G. Kapp, George W. Scharbach, W. R. McFadden, A. J. Heeson, B. W. Broer, J. J. Freeman, L. Basch and E. Gross. A constitution and by-laws have been adopted, and it is expected that at least from sixty to seventy-five members will be secured. Regular meetings will be held on the second Tuesday of each month.

The L. Basch Company will soon remove its Chicago store into new and more pretentious quarters. Local Manager J. N. Isenberg, of the Toledo branch, will attend the opening, which will occur next week.

Jewelry and money amounting to \$200 were recently stolen from the residence of Harry Walton, a Toledo merchant tailor. The plunder included a gold watch, a diamond ring, an engagement and a wedding ring.

J. J. Freeman will make a trip to St. Louis in the near future and will devote his time to business and friendly calls.

S. S. Jordan, the well-known engraver of the M. Judd Company, local retailers, is still passing the cigars over the arrival of a son, his first-born.

Ball Watches
THE RAILROAD STANDARD

MR. RETAILER!

Every Time You
Sell a "Ball" Watch

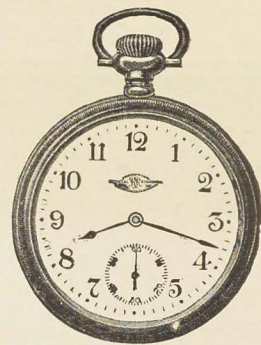
1. You earn a fair return on your time and capital invested.
2. You secure a satisfied customer (the best advertisement of all).
3. A machine goes into service which will add to your reputation as a reliable "watch man."

Write to-day

THE WEBB C. BALL WATCH CO.

Ball Building, CLEVELAND

Railway Exchange, CHICAGO



For
Graduation Gifts

CROSSMAN COMPANY'S

Inexpensive

Baroque Pearl Goods are It

Pendants, \$2 up
Handy Pins, \$2.75 up
Veil Pins, \$4.75 up

3 MAIDEN LANE

NEW YORK



SOCIETY EMBLEMS
our Specialty

We make emblems for every society and order in gold, gold filled and plated; also jewelry of original or special design.

Can match or duplicate any article of jewelry, and are known to the trade as specialists in this line.

We can be of service to every retail jeweler and show him a new field for profit and prestige.

JOHN KELSÖ, Manufacturing Jeweler

86 Dorrance Street

PROVIDENCE, R. I.

Landis School of Engraving

SUMMER COURSE



M. L. Landis
Proprietor and Instructor

M. L. Landis, 119 Mt. Vernon Ave., Detroit, Mich.
Positively no Mail Course given. Attendance only

If you wish to take a Course this Summer, please write us at once, and we will assign and hold a place for you.

Our new School rooms have every modern convenience and comfort.

Our methods are original and entirely new. We are the founders of a new system in the Art of Cutting and De-igning, which enables a pupil not endowed with artistic skill to learn to make perfect letters.

Write us, and we will give you an idea of what you could accomplish by taking a Course with us.

LEARN WATCH REPAIRING

We will teach you this business by attendance here or by correspondence. We use the DeSelms Chart System, an easy simple method. You can learn at home during your spare time if you have not the time and money to come here. After you complete the course you will be able to repair the most crippled timepiece and put it in running order. Your knowledge of watches will be thorough and complete. Watch repairers are scarce. No trouble in getting a position as soon as you can do the work.

This Is a Successful School. Notice Our Growth.

1904—	50 square feet of floor space.
1905—	100 square feet of floor space.
1906—	200 Square feet of floor space.
1907—	900 square feet of floor space.
1908—	2600 square feet of floor space.

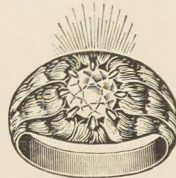
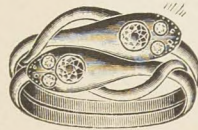
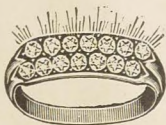
We use the full capacity of an entire building fully equipped with all the best and latest appliances for the watch, jewelry and optical business.

Special advantages to be found only in This School

Every appliance, full course of lectures, continuous practice. The DeSELMS CHARTS (Pat.) The DeSELMS TEXT BOOKS. A Model Store for the training of students in store work.

Ask for our TWO BOOKLETS explaining everything

THE DeSELMS WATCH SCHOOL, 293 Perry St., Attica, Ind.



The Most Salable Line

For the Spring Season is hinted at in the above illustrations.

Artistic novelty and attractiveness of design are noted characteristics of our line of : : : : : : :

SEAMLESS RINGS

Which stand out in bold contrast with other makes, compel attention and assure quick sales at good-profit prices.

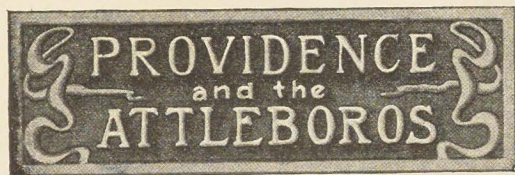
Great wealth of new styles and patterns in SCARF PINS, EAR KNOBS, Etc.

THE MORGAN JEWELRY CO.,

62 Page Street

MANUFACTURING JEWELERS

PROVIDENCE, R. I.



Jas. C. Doran & Sons, manufacturing jewelers, of Providence, report a considerable improvement in the industrial situation. This firm, which has been unusually successful, is now incorporated, with a capital of \$100,000. They have much greater facilities than heretofore for the production of their lines, which continue to grow in trade favor.

The A. & Z. Chain Co., Providence, have added to their traveling force W. P. Jefferson, an accomplished salesman, who enjoys a widespread popularity with the trade. His territory will comprise New Hampshire, Maine, Vermont and Connecticut. Mr. Ansher, senior member of the firm, who has had a long experience and wide acquaintanceship with the trade, will cover Massachusetts and Rhode Island territory.

Hutchison & Huestis, Providence, have just issued a handsomely illustrated catalogue of their product of interchangeable rings. The catalogue shows a number of beautifully executed illustrations of emblem rings, enameled in correct colors, also a large number of initial rings with engraved gold letters on black enamel. A popular line is the sunk initial ring, which is practically an engraved signet ring. The catalogue also shows handsome patterns of emblem and initial rings which are not interchangeable; also signet rings. The product of this firm also comprises ladies' and gentlemen's stone and signet rings, serpent rings and baby rings.

A. Chisholm, senior member of Bugbee & Niles Co., North Attleboro, Mass., recently returned from a pleasure trip to Europe.

G. C. Hudson, of G. C. Hudson & Co., North Attleboro, Mass., returned a few weeks ago from a trip across the Atlantic. While abroad he made an extended tour of the Continent and visited many of the chief places of interest.

Geo. W. Pearce, president of the Bay State Optical Co., Attleboro, Mass., gave a dinner in Providence on May 15th to the officers and heads of departments of that company. The function was made especially agreeable by the fact that it signaled Mr. Pearce's recovery from a recent illness, and his presence at the dinner was consequently a subject of hearty congratulation.

Before Justice Brown and a jury in the superior court, on April 24th, the suit of LeRoy Emhoff vs. Charles H. Davis, doing business as Davis Brothers, dealers in jewelry, diamonds, etc., was tried. The suit was to recover an expressman's bill of \$35 for moving household goods belonging to a former employee of Davis Brothers from Providence to Boston. At the conclusion of the plaintiff's testimony, upon motion of John I. Devlin, attorney for Davis Brothers, the plaintiff was non-suited and a decision entered for the defendant for costs.

Jos. L. Sweet, of the R. F. Simmons Co., Attleboro, returned early last month from his trip to Europe, which was taken for pleasure and recreation.

There has been considerable improvement in the industrial situation in New England during the past month. Many of the factories which have been on short time have increased the working hours and added to the number of workers. As the jewelry stocks all over the country are quite low, owing to the slow purchasing the first of the year, it is expected that a considerable demand will soon materialize, and preparations are being made accordingly.

S. K. Grover Co., Providence, R. I., by reason of the illness of Mr. Grover, have discontinued the manufacturing business and sold their entire line of sterling suspender, garter mountings and bag tags, together with the dies and tools, to the Warwick Sterling Co., Providence, who will continue the manufacture of these goods in connection with their own product.

C. H. Eden Co., Attleboro, Mass., have called in all their travelers for consultation preparatory to the fall campaign. The traveling men will be tendered a banquet by the company, and business condition in their respective territories will be

discussed, after which they will make up their new lines of samples for their next trip, when great results are hoped for.

R. G. Schutz, who represented the United Wire and Supply Co. for the past five years in Europe, is now with Stevens & Co., Inc., of Providence, manufacturers of the well-known Stevens quality optical goods. Mr. Schutz will sail for Europe on June 4th and cover the entire Continent in the interest of Stevens & Co. He is well-known to the optical manufacturing trade as an inventor of labor-saving automatic optical machines and as patentee of improved temples and frames in seamless gold filled goods. For several years past he has carried in Europe optical goods as a side line, but henceforth will devote his entire attention to the Stevens product.

J. M. Fisher & Co., Attleboro, have been busy turning out in quantity of official emblems for the coming campaign of the prohibition party. Mr. Fisher is well known as an ardent prohibitionist and was at one time the party's candidate for governor of Massachusetts.

Col. S. O. Bigney visited Washington last month and made a call on the President, accompanied by Senator Lodge. Mr. Bigney also conferred, while at the capital, with Senator Aldrich in regard to the projected tariff revision.

The following letter, in regard to the proposed settlements of Jos. Brown & Co., Chicago, with their creditors, is self-explanatory:

"ED. KEYSTONE:—A meeting of the creditors of Jos. Brown & Co., Chicago, was called at the rooms of the Manufacturing Jewelers' Board of Trade, of Providence, on Wednesday, May 13th, to discuss an offer made by said Jos. Brown & Co. of 25 cents on a dollar to their creditors, in full settlement of all claims.

"It developed at that meeting that many interests had already signed that proposition, possibly enough to carry it through, with or without the signatures of the members of the Manufacturing Jewelers' Board of Trade.

"The testimony developed at the hearing of these debtors, as reported through your columns, shows that this case is rotten to the core—a straight steal from the word go—that many assets have been concealed or made away with; that the debtor has refused to answer questions throwing light on the case, and committed many other acts that should not receive our sanction.

"The members of the Manufacturing Jewelers' Board of Trade, who hold claims in this case to the amount of \$27,000, voted to put themselves on record as unalterably opposed to accepting any such offer as 25 cents on a dollar in this case, and, further, voted to employ counsel in addition to that which they now have, in an endeavor to show up the rottenness of this deal and to break the compromise if it is a possible thing. It was the sense of the meeting that the creditors would rather take 10 per cent on a dollar, or wipe the slate clean and get nothing, to put this creditor in jail or prevent him from getting a discharge in bankruptcy rather than take 25 cents on a dollar and thereby give a passive sanction to this kind of business. The manufacturing jewelers are considered to be the easiest bunch in any kind of business in this country, and it is openly talked that a man can come down here and hand out any kind of a proposition and have it accepted.

"As far as this board is concerned, we propose to change some of these ideas with the trade in general and make it a little more difficult for these things to get by.

In the case of F. C. Happel & Co., of Chicago, we have just received 65 cents cash in lieu of a settlement, that was all fixed up for us, of 50 cents on a dollar, in eight months.

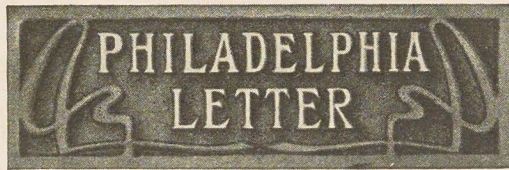
The Manufacturing Jewelers' Board of Trade wishes to serve notice on the jobbing trade that every offer of 25 or 50 cents that is made for their claims will not be accepted, and that those who think that this is the royal road to success and the get-rich-quick scheme *par excellence* will find some thorns in their paths.

"It was the sense of the meeting that for the good of the trade in general too much publicity could not be given to these ideas.

Yours respectfully,

WM. A. COOK,

Member of the Board of Trade Committee on Jos. Brown & Co. matter.



The Philadelphia Jewelers' Club continues to maintain its high reputation as a social organization. One of the most successful smokers ever given by the club was given a few weeks ago, when a large number of guests enjoyed a fine entertainment. A most enjoyable feature of the occasion was a vaudeville programme, which was taken part in by well-known stars in this line. The numbers comprised songs, dances, monologues, etc., running the entire gamut of a music-hall entertainment. After the vaudeville show the festivities were continued on the third floor, where refreshments were served and another impromptu musical programme gone through. Another function of the club, which surpassed all its predecessors, was the annual shad supper, which was again given at the Bingham House. The scene of the supper and entertainment was the beautifully decorated roof garden of this hostelry. The next big event will be the annual baseball game between nines representing the New York and Philadelphia members of the club. The game will be played in this city this month, and an unusually large attendance is expected on this occasion. The outdoor programme will be followed by the usual entertainment at the club rooms.

J. Albert Caldwell, senior member of the firm of J. E. Caldwell, sailed for Europe last month. While on the Continent, Mr. Caldwell will make his annual visitation of the art markets in search of art goods for his firm.

E. K. McGill, optician, formerly located on Eleventh Street below Chestnut, has moved to Eleventh Street below Walnut, where he has much more desirable quarters.

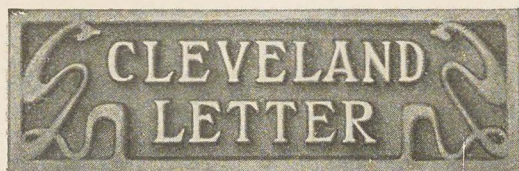
I. Press & Sons have completed the remodeling of their establishment, 33-35 South Eighth Street. The two stores have been made into one, and a large bulk window installed. Other improvements include a new metal ceiling and a number of new wall and show cases of solid mahogany. The store is now one of the finest in that part of the city. The firm is still continuing its other stores, one at 149 North Eighth Street and the original store at 119 South Second Street. The North Eighth Street store is in charge of Jos. Press and the Second Street establishment is under the supervision of Simon Press.

Wm. Long, for many years proprietor of the jewelry store at 1625 South Street, has again taken charge of the business, as his son, Geo. Long, intends to devote his entire attention to eye refraction in the building adjoining the jewelry store. He was recently awarded the contract to furnish spectacles to school children by the board of education, and this, together with his regular optical work, has engrossed his entire attention. The elder Long retired two years ago and spent that time in travel abroad and in the United States.

E. Berlet, of the jewelry firm of Maxwell & Berlet, Thirteenth and Walnut Streets, is the energetic president of the Walnut Street Business Men's Association, formed for the purpose of securing improvements in that street, which is now largely devoted to business. The association is at present using its efforts to secure better lighting facilities, as the street has been very deficient in this respect.

The Philadelphia Horological Club, which is composed of jewelers who are noted in the field of practical horology, is doing much to forward its favorite branch. Monthly meetings are held and papers read on practical subjects. The discussions are highly instructive to all engaged in watch work and other branches of horology.

Several jewelers from this city attended the formal opening of the new store of O. O. Stillman, in New Brunswick, N. J., the first of last month. Among the guests of Mr. Stillman on the occasion were Ed Sickles, of M. Sickles & Sons, and Mrs. Sickles. The new store was erected by Mr. Stillman and is thoroughly up to date in its arrangements and furnishing. The enterprising proprietor has been the recipient of hearty congratulations from his many friends in the trade.



The past month has been only fair from a business standpoint. There have been a number of business changes, some of which have affected the personnel of firms and a few that have reduced the number of retail establishments in the city. There have been one or two failures and a few have asked extensions for a short time. Generally speaking, though, the retail jewelers in this city have made a very creditable showing during the past seven months of depression.

H. W. Burdick and Gilbert L. Sigler will represent the jobbing jewelers on the trade excursion that is to be given by the local Chamber of Commerce. The tour will embrace all the principal towns in Ohio and will consume a week.

A. T. Hubbard and family have returned from a month's trip to the coast. Sterling Hubbard has also returned with his bride.

F. Martin and wife have just returned from a three months' tour of Europe. He reports the business depression as being almost universal. The United States is not alone in this particular.

Geo. W. Scribner and Mrs. Scribner have gone to Passaic, N. J., to spend several weeks with their daughter.

Wm. Wingate, senior partner in the Wingate-Nusbaum Company, has retired from the firm. Mr. Nusbaum will continue the business. So far, Mr. Wingate has made no attempt to locate. He will take a needed rest for a few weeks. It is reported that E. H. Barrett will also retire soon and remove to Painesville.

Bamberger & Gaines, retail jewelers in the Lennox, had on exhibition last month a number of ships' bell clocks for the new steamer H. M. Hanna, Jr.

The Cowell & Hubbard Company were the successful bidders for the silverware for the new country club that was opened last month.

M. B. Einig, the well-known watchmaker, is showing to his friends a library devoted entirely to works on horology. The collection is very complete.

F. B. Lewis, of the Lewis Jewelry Company, in the Colonial Arcade, has sold out his interests to a corporation of which his nephew, C. C. Lewis, is president and manager, R. P. Dorman secretary, and F. K. Leland treasurer. Mr. Lewis has also sold out his interests in the David Eaffy & Co. store. Mr. Lewis was a pioneer with Bert Ramsay in developing the Colonial Arcade into a "jewelers' row," there being seven jewelers on the ground floor now.

Harry Goldberg, jeweler on Superior avenue, has sold his branch store in the Cuyahoga Building to Biskind Bros., of 715 Euclid avenue, who will operate the store as a branch.

Chas. Ettinger has closed another of his branch stores. This one was known as the Franklin Jewelry Company, and was located on Euclid avenue near the opera house. The fixtures were sold and the lease disposed of to parties who have remodeled the room.

Frank Widmann, manufacturing jeweler in the Standard Oil Building, has sold out to Ginsberg & Walker and will go on the road to introduce a new patented ring-casting mould.

Grant Kee, the watchmaker, has an heir and son at his home.

Henry Jordan, the optician, was in Chicago last month on personal business in connection with the closing of an estate.

Sam Tronstein, manufacturing jeweler, Republic Building, has a very sick wife, and she has been taken to a sanitarium in Cuyahoga Falls.

E. P. Linscott, of the optical department of Cowell & Hubbard Company, was married last month in Syracuse to an estimable young lady.

Nelt Barr, Ashland, Ohio, has purchased the interests of his partner, Mr. Long, and will continue the business.

John Rich, Painesville, Ohio, celebrated his fiftieth anniversary in business recently. He received the congratulations of all his townspeople upon his long and honorable career.

Jerome DeL. Clark, Batavia, N. Y., has entered the Newmeyer School of Engraving.

F. N. Prevey & Co., Akron, Ohio, were robbed of about \$500 worth of jewelry about two weeks ago. Good police work soon landed the culprit, who proved to be another "Dr. Jekyll and Mr. Hyde." He was a workman in a rubber factory by day, and at night he plied his other trade.

The Prospect Loan Company, 1014 Prospect avenue, were robbed last month of a quantity of watches and jewelry that were left in the display window. Entrance was effected through a door from an adjoining room.

Henry Wickmiller, Albion, Pa., was a recent visitor in this city.

The following jewelers were among our trade visitors last month: H. H. Brainerd, Medina; George High, Medina; W. J. Higgins, Shelby; A. R. Kimpton, Oberlin; Albert Zang; Alliance; F. M. Prevey, Akron; Mrs. J. W. Helfrich, Carrollton; G. F. Elgin, Kent; E. D. Davis, Kent; Ben Mosely Willoughby; Chas. Savage, Elyria; M. Karshner, of Karshner & Guenther, Bellevue; Homer Deuble, Canton.



Commencement exercises and the June bride, assisted by the glorious weather this section has enjoyed the past month, have had their effect on trade, and it has been a pleasure to interview the jewelers and hear the reports of trade being "fully equal to last year, if not better." This has been the verdict of at least seventy-five per cent. of those seen by your representative. Jobbers report an improvement in general conditions; collections are coming in better and orders increasing. The outlook is most encouraging for the fall season. Crops are about three to four weeks ahead of last year and the acreage has been increased. Small grain has started well. The hot spell the first of the month caused the grain to sprout quickly, and the coolness of the middle part of the month held it back just enough to compel the roots to go deep. Thus it will be better enabled to withstand any draught or wind liable to damage it when not rooted deeply. From the acreage and present conditions, the crop looks at least twenty-five per cent. better than last year. Retailers' stocks are beginning to show signs of depletion, owing to light buying so far this year, which will mean a scramble for goods later on.

The vacation season is now on, and everybody will take a short trip to the woods to recuperate. A great many will enjoy visiting the larger cities to see what information they can gain in the way of improvement in their store keeping.

Louis L. deMars, Minneapolis, was married April 29th to Ethel L. Beach. Professor deMars' many pupils in the optical line will join us in wishing him a prosperous and happy married life.

Geo. T. Baker, Bemidji, Minn., is spending a few days at Rochester, Minn., where Mrs. Baker is at the hospital.

Chas. S. Jungroth, Kent, Minn., is now at the bench for C. H. Nesbit, Harvey, N. D.

H. W. Hilborn, Portal, N.D., has sold his jewelry stock to C. B. Briggs, formerly at Spring Valley, Minn.

Frank A. Ubel, Chas. Zinn and Arthur Williams, St. Paul, represented the jewelry and optical lines, serving as jury members the past month.

F. W. Seaman, St. Croix Falls, Wis., has sold out his business there to S. Isaacson and will now devote his attention to the flour milling industry at St. Claire, Minn.

Carl Hunkins, Billings, Mont., is now nicely settled in his new store, in the Babcock Theatre, and is proud of the fact that he has one of the best stores in the State.

Eugene E. Herrick, for several years watchmaker for O. H. Arosin, St. Paul, is now with Haman & Co.

H. M. Roberts, Dickinson, N. D., has just purchased a new Buick automobile and is getting some necessary out-door exercise.

Mitchell H. Call, Fergus Falls, Minn., has filed a petition in bankruptcy—assets, \$2875; liabilities, \$1392.50. He claims \$1750 of his assets exempt.

Harry L. Dodge, Annacortes, Wash., has sold out to Tinker Bros. D. N. Tinker, formerly with the Berens jewelry and optical house, Bellingham, Wash., will have charge of the business.

Bullard Bros., St. Paul, have incorporated, the incorporators being John H. Bullard, W. H. Bullard and H. W. Pratt. The capital stock is placed at \$50,000.

Mr. and Mrs. Charles Erickson, Gladstone, Mich., spent a week visiting friends in Minnesota last month.

Emil F. Huhner, Stillwater, Minn., is fully three inches taller than last month, owing to the arrival of a young musician at his home. Congratulations are extended.

Max H. Schleuder, St. Peter, Minn., has succeeded to the business of his father, Julius Schleuder.

A joint meeting of the board of directors of the Minnesota Retail Jewelers' Association and the Minnesota State Association of Optometrists was held at the office of C. A. Snell, Minneapolis, to arrange for the summer meeting of these associations. The usual good time will be given and a large attendance is expected. It is planned to hold the meeting the latter part of June.

A meeting of the South Dakota Retail Jewelers' Association was held at Watertown, S. D., May 12th. A. W. Voedisch, Aberdeen, was elected secretary. The meeting was enthusiastic, though the attendance was not as large as expected, a great many writing their regrets, but sending in their applications for membership.

North Dakota Jewelers' Association will hold its annual meeting at Jamestown, N. D., June 12th and 13th, which will be the first time the southern part of the State has the pleasure of entertaining the jewelers, and a great many heretofore unable to attend will be on hand.

Schleuder Bros., Bellingham, Wash., have been succeeded by Schleuder & Sons.

J. D. Leys, Butte, Mont., are now nicely located in their new store building, three doors from the old stand.

A. O. Carlson, Lansford, N. D., and E. T. Johnson, Minot, N. D., are brushing up by taking a course of study at the Stone School of Watchmaking, St. Paul.

Visitors noticed the past month were: J. H. Reiner, Glencoe, Minn.; I. M. Radabaugh, Hastings, Minn.; J. L. Moody, Ellsworth, Wis.; John C. Marx, Shakopee, Minn.; E. Pelant, Lonsdale, Minn.; Tom Morris, Crookston, Minn.; E. McAyeal, Morris, Minn.; A. G. Tellner, Jamestown, N. D.; F. W. Seaman, St. Croix Falls, Wis.; F. H. Straub, Fergus Falls, Minn.; Mr. and Mrs. Chas. Erickson, Gladstone, Mich.; E. J. Swedlund, Atwater, Minn.; O. E. Oslund, Milaca, Minn.; Breckenridge, Minn.; E. Wetzel, Monticello, Minn.; Oscar Holmes, Cambridge, Minn.

Diamond Loss in Cutting

Diamonds lose enormously in the process of cutting. The Excelsior, like the Cullinan, is a Cape diamond of fine quality and free from color. It was the biggest diamond known until the giant Cullinan was found, but in the rough it only weighed seven ounces, or less than a third of the Cullinan. As now cut it weighs only one and three-quarter ounces. It is reduced to a quarter of its original size.

In the same way the Pitt diamond, an Indian one, named after General Pitt, of Madras, weighed originally three ounces and is now (it is in Paris, in the Louvre, and is called "The Regent") less than an ounce in weight. The biggest Indian diamond known—the Nizan—is not quite twice this size, while the Kohinoor, which is probably a fragment (a third) of the "Great Mogul"—a diamond which has disappeared, leaving only tradition and surmises as to its history—weighs no less than three-quarters of an ounce. This seems a small affair by the side of the twenty-one ounces of the Cullinan. This last-named stone is now being cut in Amsterdam by the most expert cutters in the world, and the final product will be awaited with curiosity.—London Telegraph.

THE **ÆGIS** CASE

(PATENTED)

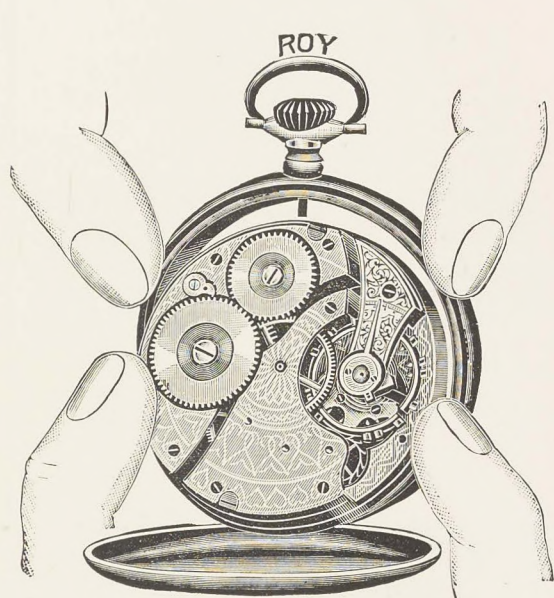


Fig. 1

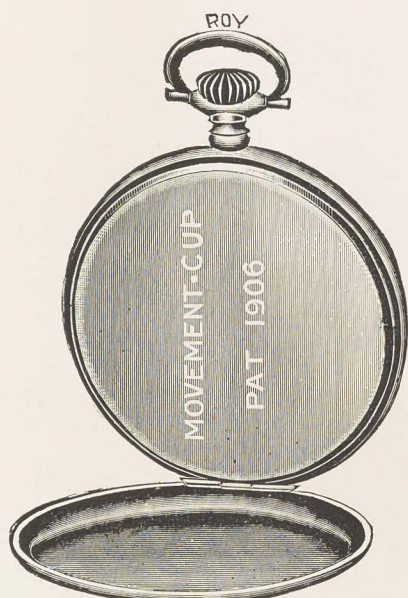


Fig. 2

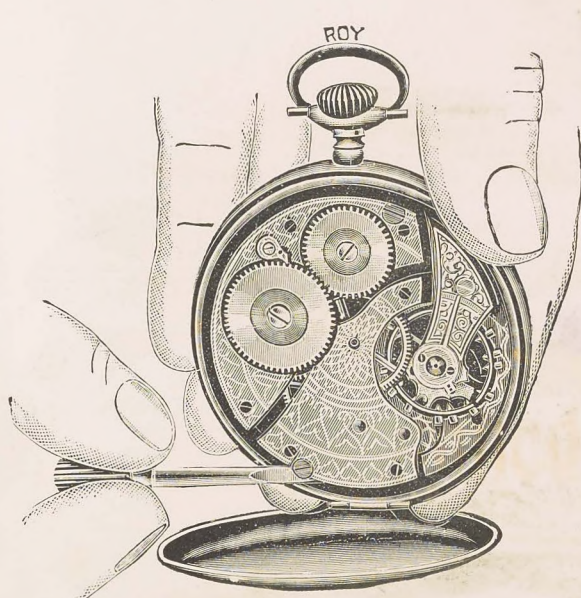


Fig. 3

The **ÆGIS** is a *new creation* in Gold Case making. The Center and Bezel are in one. Instead of having the ordinary Cap, this Case is provided with a rigid metal movement cup, held friction tight in position. This cup gives protection to the movement such as cannot be secured with the conventional jointed cap, while dust is thoroughly excluded from the front by means of the one-piece center and bezel.

To fit movement, first properly adjust the hands; then pull out crown as usual and insert movement from back of case, (see Fig. 1). After winding square is properly placed, the movement should be pressed down, so that it will be held in proper place by the spring in the case center. The movement cup should then be fitted.

To take out movement, remove the movement cup (shown in Fig. 2), by raising it near the pendant; pull out crown to release the square; lift out movement by means of case screw nearest joint (see Fig. 3); withdraw movement from square, and case.

This new **ÆGIS** case is made in **12 and 16 size O. F.**, and is now ready for delivery

Made only by

ROY
TRADE MARK REGISTERED

ROY WATCH CASE COMPANY

21-23 Maiden Lane, New York

San Francisco Office, 704 Market Street

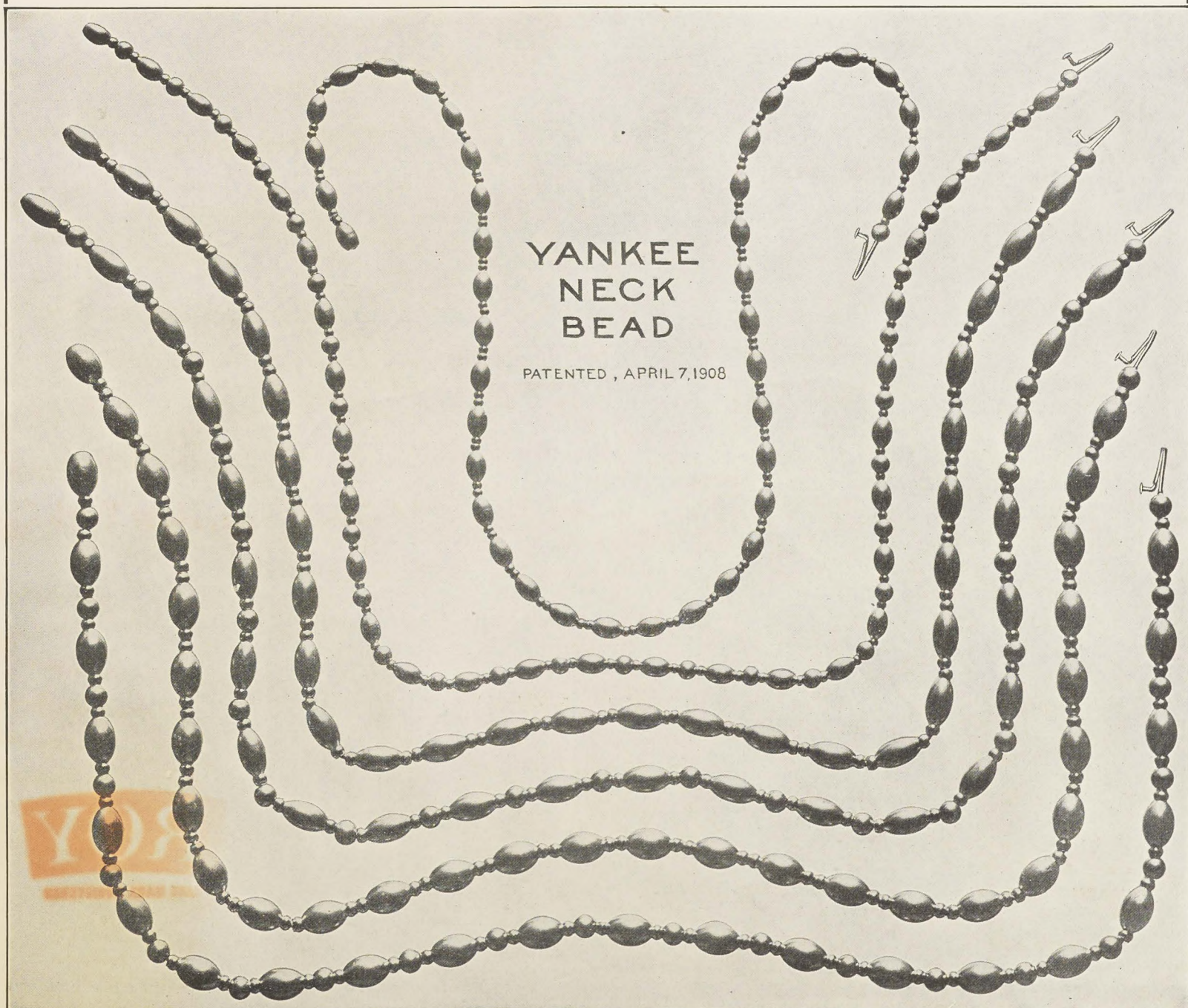
ROY
TRADE MARK REGISTERED

The Wachter Mfg. Co.

Hartford, Conn.

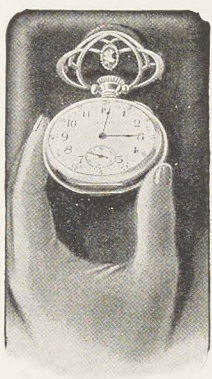
Maker of Gold Filled Beads

Latest Designs in Beads



LOST!

983



Lifting Watch so Dial Faces the Wearer

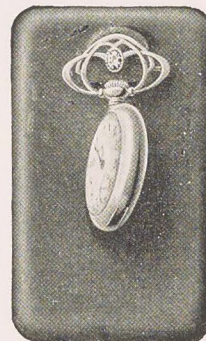
LOST—On May 8, lady's gold watch and chatelaine, between Erie Ferry, 23d St. and 19th St.; reward. Return to Adelaide McKain, care James R. Keiser, 11 West 19th St.

\$15 REWARD for return of gold watch, with raised monogram, "M. C. B.," and gold chatelaine pin, lost Thursday, April 30, or Friday, May 1. T. Kirkpatrick & Co., 334 Fifth Ave.

LOST—Lady's open-faced gold watch, between 11 and 12 o'clock a. m., May 12, fleur-de-lis chatelaine, initials "V. M. D." Mrs. V. M. Davies, 3 West 24th St.

LOST—Friday morning, red enameled watch (Schumann make), set with fleur-de-lis of diamonds. Suitable reward if returned to Main Floor Superintendent, Macy's.

The above advertisements were clipped from the Lost Column of one of the daily papers



Side View
Showing Watch Turned in Swivel Brooch

DUBOIS

Safety Chatelaine Brooch and Case Combined

Which Enables a Watch to keep
CORRECT TIME

Cannot Be Lost

Absolute Security

WILL NOT PULL OR WEAR OFF

Patents Pending in U. S. and Foreign Countries.



Watch worn as Chatelaine, showing it lifted to read the time

MERITS—Holds the watch firmly and securely, thus preventing the movement from being jarred, as there is no swinging or bobbing up and down while the wearer is walking or running. Protects both the case and garment from wear.

UTILITY—It can be raised so as to read the time, and reversed to have either the dial or back facing front, without removing brooch pin or watch from the garment. Can be worn on the shoulder, belt, chain or fob.

ARTISTIC AND PRACTICAL—The only brooch and watch combined. Affords absolute security, as it has a safety catch. Nothing to wear out, as it works on friction bearings. Eliminates the possibility of loss of the watch owing to either bow, hook, swivel or link wearing out, breaking or coming apart, as in the old-style chatelaine. Does not interfere with either winding or setting of movement.

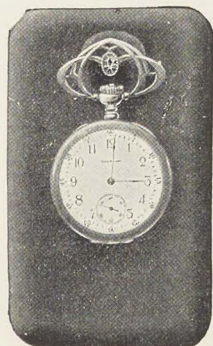
Licensed under Wachter Patent. Patented July 25, 1905; May 21, 1907.



Watch worn on belt as Chatelaine, also long neck chain can be worn attached to it

DUBOIS WATCH CASE CO., 21 and 23 Maiden Lane, New York City

MADE FOR ALL SIZES OF LADIES' WATCHES, BOTH OPEN-FACE AND HUNTING



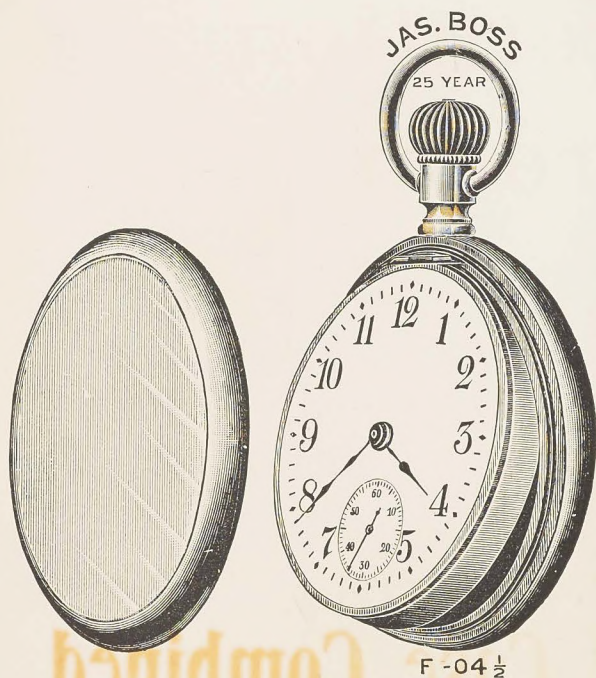
Showing Watch Worn with Dial Outward



Watch worn on chain as pendant, pinned to garment as additional security



Showing Watch Turned with Back Outward



P. P. and S. F.
18 size, Swing Ring

F -04 1/2

Swing Ring Watch Cases

DUST AND DAMP PROOF

JAS. BOSS Stiffened Gold

(Guaranteed for 25 Years)



GUARANTEED
J. BOSS
25 YEARS
Trade-Marks



F.0513

Engine-Turned
18 size, Swing Ring

Artistic in model.

Correct in construction.

Perfect in finish.

Great variety in ornamentation.

The popular model for railroad men and all others requiring a strong serviceable case.

No jeweler's stock complete without this justly popular line.

We show a few staple styles of eighteen size.



F.3176

Top and Bottom Engraved
18 size, Swing Ring

The Keystone Watch Case Co.

19th & Brown Streets

Philadelphia

New York
Chicago

Boston

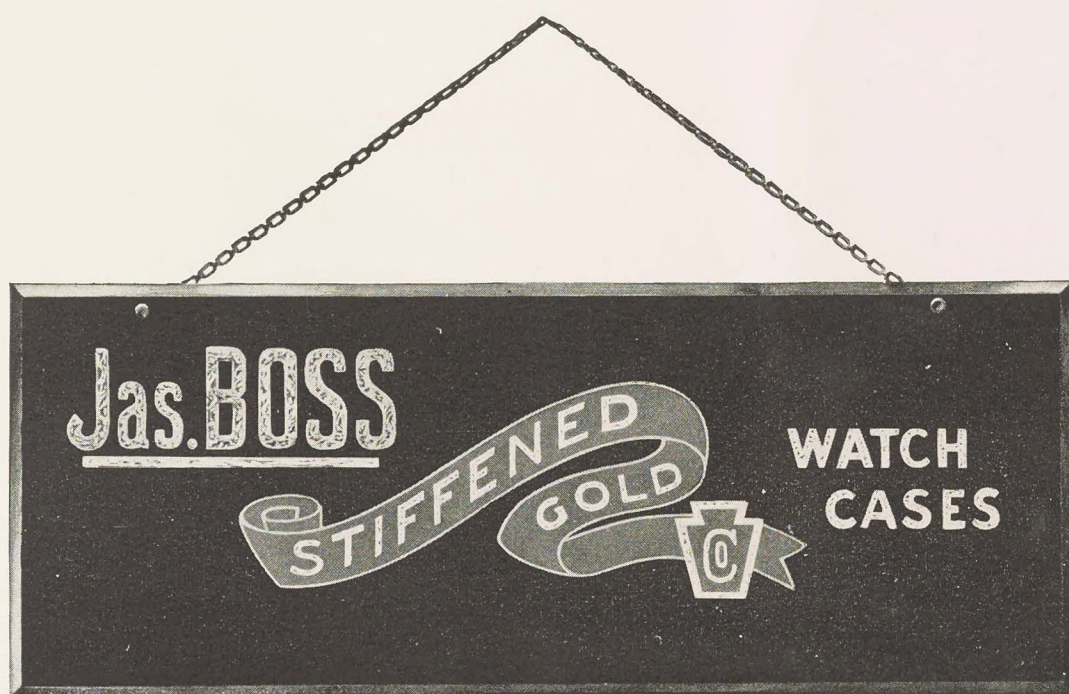
Cincinnati
San Francisco



F.1412

P. P., Locomotive Engraved
18 size, Swing Ring

A Handsome Decoration for Your Salesroom



THIS GLASS PANEL SIGN

Size, 20 inches by 7 $\frac{3}{4}$ inches

Gilt Lettering on Maroon and Black Background

Will be sent carriage free to any regular jeweler on receipt of request accompanied by business card.

Order immediately as the supply is limited and orders will be filled in rotation as received.

The Keystone Watch Case Co.

19th & Brown Sts.

PHILADELPHIA

New York

Chicago

Boston

Cincinnati

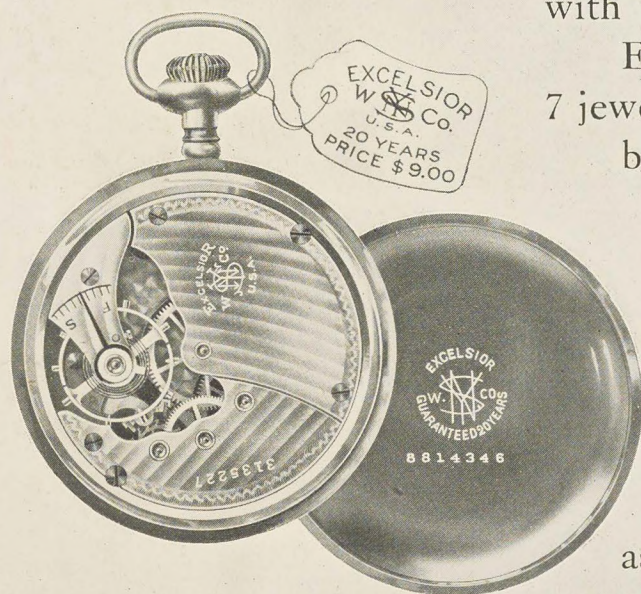
San Francisco

Excelsior Watch

WHAT shall the Jeweler sell to the two million persons who come to the watch-carrying age every year?

They need a reliable time-piece. They *must have* a popular-price article.

Every one is a possible customer for an Excelsior—the only watch that offers them real accuracy, dependability, and neatness with the advantage of low price.



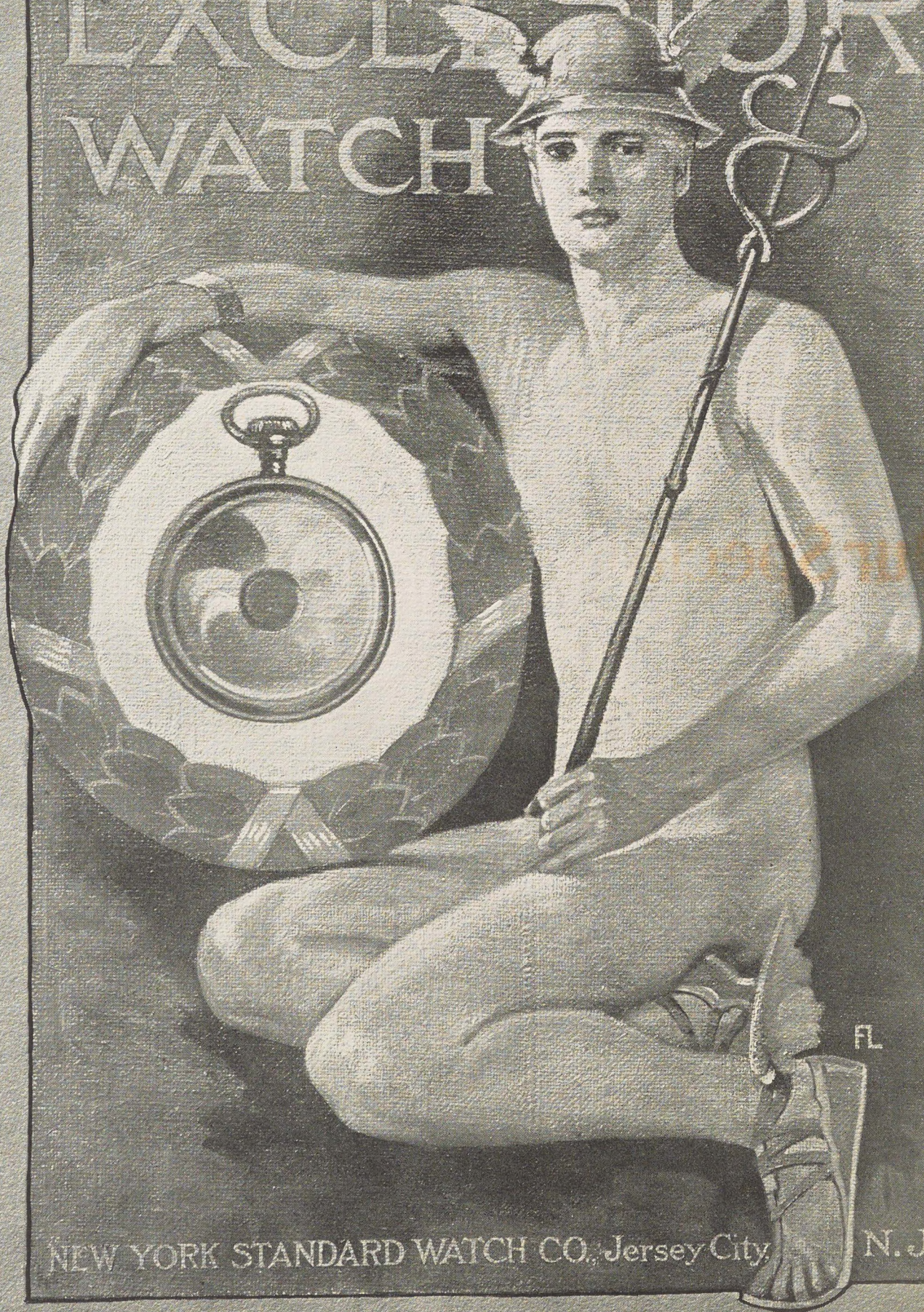
Every Excelsior movement has 7 jewels, quick train, cut expansion balance, Breguet hairspring, stem-wind and pendant-set (except 18-size hunting, lever-set)—cased and timed at the factory, and supplied *complete*, with a printed price ticket that *fixes* the retail price everywhere and assures you a rightful profit on every sale.

Made in 6, 12, 16 and 18 sizes, in plain polished, engine-turned and fancy engraved cases, of three grades—gold-filled 20-year guarantee, retailing at \$9.00, open face; \$11.00, hunting. Gold-filled 10-year guarantee, \$6.50, open face; \$7.00, hunting. Silverode (wears like silver), \$4.50, open face; \$4.75, hunting.

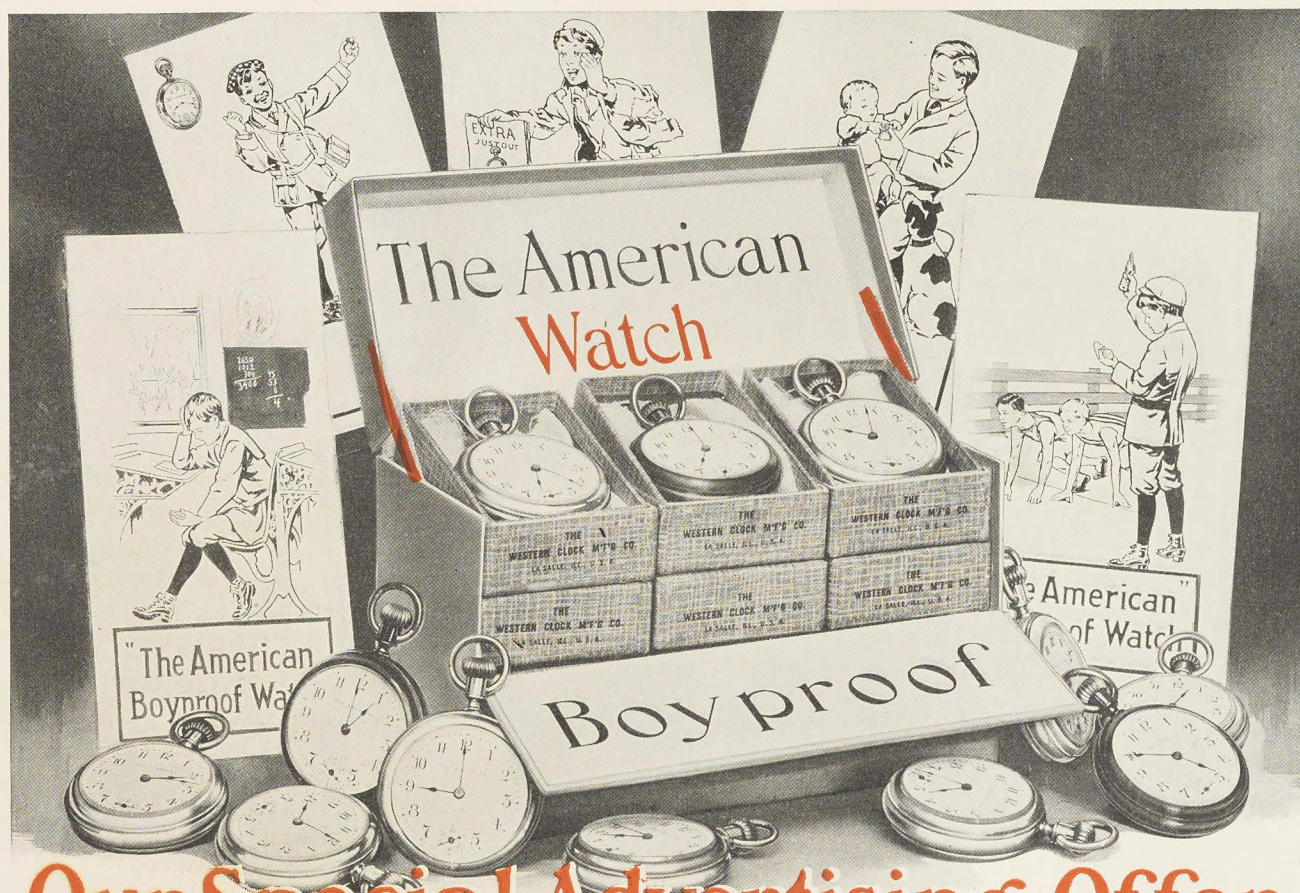
Inquire of your jobber and write to the factory for literature.

New York Standard Watch Company
Jersey City, N. J.

EXCELSIOR WATCH



NEW YORK STANDARD WATCH CO., Jersey City, N. J.



Our Special Advertising Offer

In order to introduce "The American" Boyproof Watch to the trade, we will ship with every order for one dozen, the handsome display box illustrated above, covered in Rembrandt Brown and containing, together with the twelve watches, several three color posters of "The American" Boyproof Watch.

Every box is packed for shipment in a reinforced, double corrugated board wrapper and every watch is put up individually in a flannel baglet and a tight fitting linen cover box. Nothing has been spared to make this assortment as attractive as possible; it is compact, neat and handy and will double your sales on \$1.00 watches wherever displayed.

Price, complete, with 12 Boyproof Watches, Nickel Finish.

\$8.40 Net.

The Western Clock Manufacturing Company,

Sole Manufacturers of the America Alarm.

NEW YORK, 85 John St.

La Salle, Illinois.

CHICAGO, 131 Wabash Ave.



Practical Watch Repairing

A Series of Articles Explaining Modern Methods Used by European Workmen—No. 12

[Translated from *La France Horlogere*]

If the watch in question is a fine one, the extremities of the tools should be covered with silk cloth before using them, so as not to spoil the polish either of the face of the cannon pinion or that of the head of the set-hands arbor.

We assure ourselves once more of the freedom of the center wheel, operating this time upon the leaves of the pinion, always with a very slender metal bar. This precaution is not superfluous, for it can easily happen that the presence of a defective set-hands arbor may change slightly the form of the leaves, and consequently affect the freedom of the mobile.

We next verify the fit of the hour-wheel pipe upon the cannon pinion. The hole of this latter should be carefully broached and cleaned, so as to obviate all chance of wedging; it should turn freely under the least effort exercised upon its pipe, and the entire mobile should fall back of itself when it has been raised up by tweezers.

After having placed and given freedom to the movement of the intermediate wheel, we replace the motion-work on its stud, and after having ascertained that the gearing of the cannon pinion with the intermediate wheel is perfect, we cause the entire train to turn by giving a slight impulse to the pinion of the motion-work with the point of the tweezers.

Noting a perfect freedom, we renew the operation once more; then, to make assurance doubly sure, we put on the dial, after assuring ourselves that the hole is perfectly centered and that there is no danger of its touching the tube of the hour-hand, we again set the wheels in motion by imparting the necessary force to the center pinion or to the teeth of the center wheel, letting the tool enter through the aperture of the barrel recess.

This process permits the immediate discovery of imperfections arising from the lack of play of the mobiles adjusted beneath the dial.

To assure the freedom of the hour-wheel, it is indispensable to press upon the

head of the set-hands arbor, so as to approach the face of the cannon pinion as much as possible toward the dial.

In this position the pipe ought to have a slight end shake.

A glance to assure ourselves that the ends of the cannon pinion extend slightly beyond the pipe, and we then remove the dial, to continue the operation of setting up the other mobiles.

We place the barrel upon its arbor with the stop-work, but without the spring.

It is unnecessary to say that the holes in this work should be prepared with the same care that was given the center holes.

After having observed the functions of the stop-work and ascertained that the freedom of the barrel is perfect, we place it in the frame so as to try its gearing and to see that no friction exists with another wheel that might interfere with its rotation.

We now turn our attention to the click-work, which has previously been placed.

This done, we remove the barrel for the purpose of putting in the spring.

Before going further, it would seem advisable to discuss the mainspring in some detail, and the changes that the springer must generally make in order to obtain its perfect freedom, good development and to make sure that it is hooked solidly.

These operations affect the thickness and height of the extremities, the form of the eyelets, and sometimes the length of the spring.

The outside extremity should be diminished in thickness to render it more flexible. The part of the eyelet that comes in contact with the hook should be beveled with a file from the inside.

These precautions make unhooking impossible. They are indispensable—above all in fine movements, in which the height of the hook should not exceed the thickness of the spring.

Besides, the height of the interior extremity should be sensibly diminished, so as to prevent its touching either the bottom or the cover of the barrel.

Let us stop here to consider under what conditions the best development is obtainable with the least risk of breakage. We know that in theory the diameter of the barrel arbor collet should equal one-third that of the interior of the barrel. Never-

theless, with a weak spring a smaller collet may be used without danger of breakage; the flexibility of a more slender spring being, naturally, greater than that of a thicker one.

To obtain a winding and development as nearly concentric as possible, one should not neglect to rectify the outside of the collet with a file, if the snail is irregular, which often happens.

In a work upon the best disposition of the mainspring, presented in 1857 to the *Societe des Horlogers de Paris*, MM. Rozi, father and son, gave a study of the proportions of the several elements entering into a barrel. Their arguments are based upon the two following theorems:

1. *A spring in its barrel develops always a number of turns equal to the difference between the number of turns of the spring in the two extreme positions.*

For example, if a spring gives 10 coils when it is run down and 16 when it is wound up, the number of turns of development is:

$$16 - 10 = 6$$

2. *In a barrel in which the collet, the arbor and the thickness of the spring are given, when the spring has such a length that the surface occupied by it on the collet is equal to the distance left between it and the arbor, the maximum number of development turns is obtained.*

From these two principles a great number of formulæ are derived for finding the value of the elements of a spring, which do not come within the limits of our modest study.

When the spring has been put in under the conditions that we have described, we oil it as it should be, oil the holes and close the cover. We see then if the coils have sufficient play in height; then we place the stop-work and arrange the spring so as to utilize the best part of the development, that part which has the most equal traction.

We continue, then, the setting up of our watch, taking next the second and fourth wheels, leaving out the barrel, which is not finally placed until the train and the escapement are in place.

To simplify our description, we have proceeded as if the center wheel only was under its bridge.

(Continued on page 991)

EVERYTHING IN LOCKETS & CHAINS

THE BASSETT JEWELRY CO.

PROVIDENCE, R. I.

STAMPED { 14 K. 10 K. 1/4 1/10 1/20
14 K RB. 10 K RB. 1/4 14 K RB. 1/10 14 K RB. RB.

LOCKETS ONLY

Registered



U. S. Pat. Office



NUMBER
8489

Old English Design and Finish
Hand Decorated

WIGHTMAN & HOUGH CO.

NEW YORK OFFICE
3 Maiden Lane

Main Office and Factory { 7 Beverly St.
PROVIDENCE, R. I.

The Line That Sells

LEATHER FOBS

WITH EMBLEMS OF ANY SOCIETY
BLACK OR TAN LEATHER

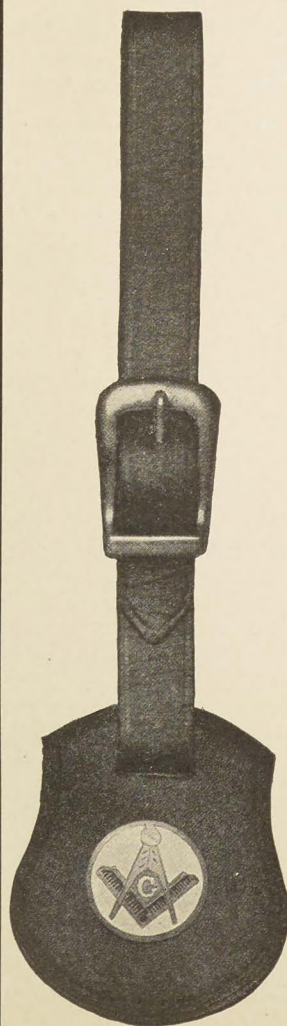
Special Grade, with Extra Quality
Gold-Plated Emblems . . \$3.33 dozen

Regular Grade, with Regular Quality
Gold-Plated Emblems . . \$2.00 dozen

Less 10 per cent. for Cash

As You Want Them { On Single Cards
or
Six on Card

SEND YOUR ORDER TO-DAY



The Chas. S. Purdy Co.

SOCIETY EMBLEMS

292 Westminster Street

PROVIDENCE, R. I.

Practical Watch Repairing

(Continued from page 989)

Actually, this disposition is encountered very rarely. In the designs in common use the center wheel and the adjoining wheel are pivoted in the same bridge.

It goes without saying that one should, in this case, see if the two mobiles have sufficient space between them and between them and the bridge.

It would seem useless to dwell upon the setting up of the intermediary wheels, which offer no difficulty.

The uprighting, the shake, and the gearing of each wheel should be observed with minute attention. It is only on the condition that these are perfect that an absolutely free movement can be obtained, whatever its condition otherwise may be.

If the fourth wheel carries a second-hand, it should be given the least possible end shake, so as to obviate any trouble arising from a meeting of the hands.

We shall now pass on to the escapement, which we shall suppose a cylinder.

The escape wheel and cylinder (without the spring) are put in place and their functions verified. We assure ourselves first of the end shake of the cylinder. In a well-made piece this should be normal when the upper pivot extends the length of its rounded end beyond the jewel.

We then turn our attention to the following:

1. *The division.*—This is good when the under part of the cylinder wheel is at the middle of the cylinder shell, the movement being placed dial down.

2. *The lift.*—To observe this, we exert some force on the center wheel, and, turning the balance with a pin, we cause a tooth to enter the cylinder. When the following tooth has come into repose, we let go of the balance, which should remain stationary (the contrary would indicate that the escapement has no locking). Turning the balance in the opposite direction, the angle through which it passes before the wheel starts will give us the amount of locking, which should be, as we know, about five degrees.

We cause each tooth to pass, one after the other, counting them to assure ourselves that the wheel makes at least one turn.

This operation permits us, at the same time, to verify the drop of all the teeth, both on the interior and on the outside of the cylinder.

Many watchmakers, confounding lift with lock, do not hesitate to reinforce a cylinder of which the lift seems weak, al-

though the lock is perfect. This is a grave error, for they only succeed in giving themselves the impression that they are correcting an error, when in reality they are creating others that will fatally injure the running quality of the movement; that is, too strong a lock and unequal drops.

We should not lose sight of the fact that the internal and external drops cannot be equal in a perfectly constructed cylinder unless the middle of the incline of the tooth coincides with the center of the cylinder.

After having observed the functions of the escapement, and having assured ourselves that the balance does not run the risk of touching another piece, we see if the banking stud and the banking pin are properly placed and that this latter does not risk touching the escape wheel pinion nor the block of the balance cock.

Raising the balance slightly, we see that the upper pivot extends clear through the jewel. For the lower pivot, we loosen the end-stone setting-screw slightly, holding the plate upside-down; we move the balance up and down, and we are sure that the pivot is sufficiently long if the end-stone plate moves.

We then put the regulator in place. If the pivot hole of the balance is not jeweled, we exercise all possible care in adjusting it. To ascertain whether or not the regulator cap is of the proper size, we put it on a flat metal plate, and, putting the regulator upon it, we press, with the points of brass tweezers, inserted in the screw-holes, alternately on one side and on the other. It is clear that if the hole is too large, the regulator will follow the movement of the tweezers; on the contrary, it will not move if it is too small or absolutely right.

The regulator being placed, we put the hairspring on the cock to see if the center of the hole in the collet coincides perfectly with the hole of the stone and if the overcoil does not run the risk of touching the stud.

After having poised the balance, we oil the cylinder and the four holes, put everything in place, and the operation of setting up the escapement is completed.

We now finally set up the barrel and the winding mechanism, put the movement in its case and ascertain if sufficient space exists between the tops of the bridges and the case-back and if the head of the set-hands arbor runs the risk of touching the dome.

At this point we wind the spring a quarter of a turn, and examine—both by

listening and watching—the running of the watch in all possible positions. If this examination proves satisfactory, we oil all the pivots and pass on to the setting up of the motion work, the dial and the hands.

The latter should be fitted with all care, so as not to deform their centers.

Beforehand, we have shaped the shoulder on the end of the set-hands arbor and broached out with care the hole of the minute-hand, to remove all burrs. Then we place the hands so that they have sufficient space between them, and between them and the dial. The setting up of the movement is now completed.

In this enumeration of the different phases of setting up as we understand them, we have been obliged to pass over numbers of details in order not to abuse the attention of our readers.

The operation of setting up a watch is very complex, and can be but superficially treated in a magazine article, for the complete description of all the operations which the assembler is forced to go through would, without exaggerating, make a complete treatise.

In concluding, we counsel young watchmakers, for whom we have written these lines, to make up their minds that an assembler should be a finished watchmaker, and consequently, that those who are planning to follow this vocation should, if they wish to be thoroughly efficient, acquire beforehand, besides the manual skill necessary, a profound theoretical and practical knowledge of the functions of all the parts of the watch.

Replacing Teeth

"After all, there are not so many ways of replacing teeth," a young workman said to the writer not long ago.

It is certain that young workmen who have not taken down many movements, especially old ones, only know the few forms encountered during their apprenticeship. They know the swallow's tail, the tongue, and the screwed tooth, which are the most frequently encountered; but there are other cases which necessitate other modes of fitting. We shall try to describe some of them.

The writer rarely employs the swallow's tail form, preferring the tongue shape, even for barrels, and also if several adjoining teeth are to be replaced. This form does not weaken the base of the following (in the direction of the lead) tooth. And when there are more than three, the bottom of the barrel or the wheel can be replaced, and the renewal of the teeth is thereby greatly simplified.

[TO BE CONTINUED]

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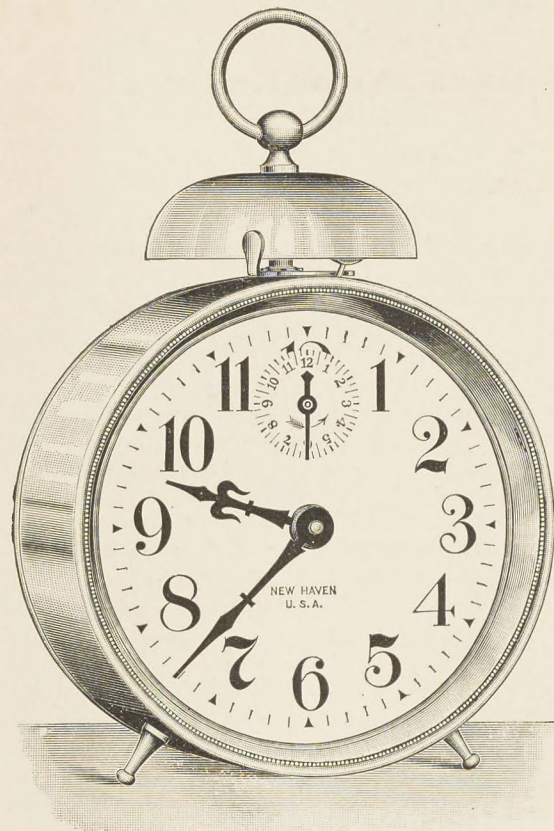
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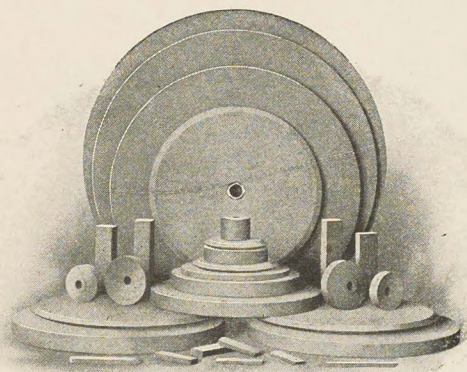


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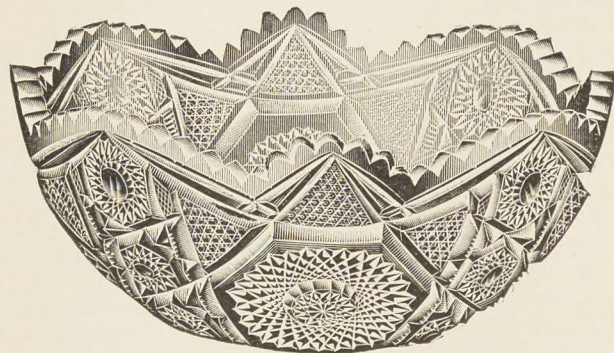
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TOOLS AND METHODS

[CONTINUED]

By F. R. CUNNINGHAM, Boston, Mass.

We have observed that the task of properly applying lathe wax is one troublesome to most young watchmakers. We remember, too, that it once gave us some trouble. Burning the wax, or overheating the work, is the chief difficulty; the flame should not be held continuously to the wax, but should be held under the chuck just back of the wax, and only occasionally flashed across the wax. The stick of wax, which is held in the right hand, should be occasionally passed over the flame, keeping the wax soft enough that it may be readily transferred to the chuck, until we have built up the mass of wax holding the work to our liking. We have already said substantially this, in a different way, but the matter is important enough to justify repeating. Insufficient attention to apparently trifling details often stands in the way of success.

Applying Lathe Wax

During the waxing operation the lathe should be running slowly; too great speed will throw the molten wax off and too slow speed will cause it to sag to one side. The exact speed required can only be known by experience; it will vary considerably with the softness of the wax. It is important in setting up work, that the mass of wax be practically true, otherwise, even though we may carefully true the exposed end of the work while the wax is cooling, it will generally be found slightly out of true when cold, owing to the uneven distribution of the wax about the work. Should the young watchmaker experience any real difficulty in getting the mass of wax true by means of the flame alone, he had best let it cool and turn it true with the graver; after which it may be again softened enough to smooth the surface and allow truing of the work. If the form of the wax mass is regular but slightly eccentric, it may generally be brought true by stopping the lathe with the high side of the wax uppermost and allowing the mass to settle, or move downward; this should not be attempted while the wax is very soft, or nearly the whole mass will drop off—here again only experience can give us exact knowledge; but the young watchmaker is advised to experiment until he is a master of wax; it is indispensable to the watchmaker in fine lathe work.

Split Chucks vs. Wax Chucks —far from it. We have a full set, and every workman who can is advised to have them.

But the fact still remains that for certain classes of work in the American lathe the wax chuck is still pre-eminent, and probably always will be. The fitting and finishing of pinions of the smaller sizes is one of these jobs. True, a good job can be done using only split chucks, and we shall fully consider this subject; but when we desire a piece of work absolutely unmarred and perfect as to trueness, we eliminate all elements of uncertainty when we use the wax chuck properly. Be sure you get the right kind of lathe wax. The kind known as Bottum's lathe wax is best; it is composed of shellac and ultramarine blue; it is stronger than plain shellac; it comes in round sticks, nearly black in color. There is an imitation of Bottum's wax on the market, which contains pitch, and for lathe work it is entirely worthless. We caution the young watchmaker against this

stuff, as it would be most discouraging to try to do work with it, under the impression that he was using the best. When heated, the pitchy character of the imitation can easily be detected.

The Truing

To return to our pinion job. We had the pinion set up in the wax, and everything satisfactory, except that we had not done the final truing. This is usually done by holding a flattened peg to the leaves of the pinion as it rotates; but in the case we have described we have already turned the ends of the arbor true with the leaves, so the truing may be done by the end of the arbor. When a small female center is used to support the work while waxing up, as we have described, if the tail-stock spindle is slowly drawn back as the wax is cooling, the work will in most cases be found to run perfectly true; if it does not, it should be trued with the peg, as usual.

Now, assuming that we have the pinion trued up in the wax, we will turn a square-shouldered pivot on it. This will be a plain pivot without fancy oil-stops—we will consider these refinements later. The type of pivot we intend to produce is shown in Fig. 28. The only difficulty about the operation is turning the sharp corner at the root of the pivot. Some workmen use a graver, ground as shown in Fig. 29; but we prefer a plain lozenge graver, sharpened to a perfect point. A graver ground as shown in Fig.

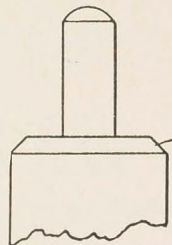


Fig. 28

29 is convenient for turning the chamfer *a* and for this purpose it will be found advantageous to smooth the point on a jasper stone, taking care to stone it in a direction at right angles to the line of cutting, as we explained in the April KEYSTONE, under Fig. 27.

Turning the Pivot

In turning our pivot, we first make a slight groove at the point where the shoulder is to be, allowing a slight amount for finishing. Here, again, experience only can teach the amount necessary to allow for finishing, and probably no two workmen would need exactly the same amount. We would advise the young watchmaker to aim at such perfection in turning that but little will need to be done by the grinding laps to bring up a perfect surface, ready for the final polish. After turning the groove, marking the position of the shoulder, we turn away the metal between the groove and the outer end, thus beginning the formation of a pivot. When the metal is removed down to nearly the bottom of the groove, we extend the groove still deeper then remove the outer metal, and so continue until we have the pivot to size, plus allowance for finishing. The final operation before grinding should be to smooth the shoulder, if it is not already so. Some workmen make a slight groove at the root of the pivot, just deep enough to disappear when the grinding and polishing are done leaving a perfect corner. Good work is certainly done in this way, but it is not necessary, for with proper manipulation of the grinding and polishing laps an imperfect job of turning may be brought to perfection. We know it is a general belief that a fillet, or rounded portion, in the corner cannot be removed by means of a lap, but it

certainly can, and to perfection. However, the workman should be so clever with the graver that he can finish the corner in any manner he may wish, either turning it to a perfect angle or cutting a slight groove. The shoulder turned square and smooth, a good corner, and the pivot straight and smooth we will next finish the end of the pivot. A very quick and satisfactory way of doing this is to stone it to a rounded form with an Arkansas slip, then smooth it with a jasper stone, and, finally, burnish it with a flat burnisher, slightly oiled. This brings up a polish, which, on a rounded surface, looks perfection. The burnishing throws up a slight burr on the edge, which should be removed with the graver; or, if our jasper has a square edge, it can be used to remove the burr. It should be removed, for if left, it is likely to groove the pivot polisher lap when brought against it.

Grinding the Pivot

We are now ready to grind the pivot, preparatory to the final polish. Many workmen use a bell-metal lap with diamantine, sapphirine or crocus directly after the turning, dispensing with the grinding lap entirely. If the turning is smooth and perfect, it is practical to do this. We think, however, for the beginner better results will be obtained to first use a cast-iron lap, with fine oilstone powder mixed with oil. We should not try to use the oilstone powder just as it comes from the material dealer; it contains coarse particles, which will scratch the work. A convenient way to separate the coarser particles is to fill a wide-mouthed bottle, like a vaseline bottle, about one-third full of oilstone powder, then nearly fill with benzine; cork it tightly and shake up the contents; then set it aside and allow it to settle. After the benzine has settled clear, pour off most of it, and plug the mouth of the bottle loosely with cotton wool; this, while excluding dust, allows the benzine to evaporate. Now all the coarser particles of the oilstone are at the bottom of the bottle; we may skim off the top with a knife or steel spatula and mix it with oil; it should not be too thin—like thick paste is about right. Clock or watch oil is best; it does not gum so quickly as most oils. In speaking of oilstone powder, we have had Arkansas stone in mind, but we prefer Turkey oilstone powder for use with the pivot polisher; it is not so easily obtained, though no difficulty should be experienced in getting it from any large city. It should be treated in the same manner as Arkansas powder to separate the coarse particles. Some may prefer to use oil instead of benzine to decant the powder. If this is done, after the powder has settled, so the oil is quite clear, the oil may be entirely poured off, enough will remain so that the powder may be removed by means of a spatula to the polishing block and there mixed for use, and generally no more oil will need to be added, as the powder will be pretty well saturated with it. The only objection to the use of oil for decanting the powder is that it is wasteful of oil, for it can hardly be used for lubricating purposes after having had oilstone powder mixed with it. However, the quantity we mentioned treating in the bottle will last a long time, so if oil is preferred the expense need not stand in the way. Of the oilstone powder deposit in the bottom of the bottle, only about one-third will be suitable for pivot polisher work, and this off the top; the remainder may be used for flat steel grinding or other purposes.

Now, to the grinding of the pivot. We have

(Continued on page 997)

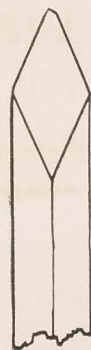



Fig. 29



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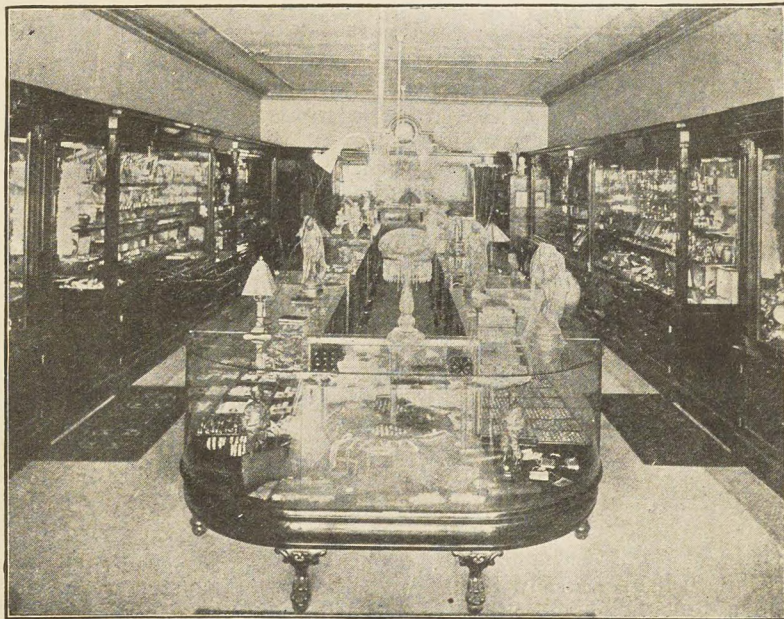
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TALK TO AMBITIOUS WATCH-MAKERS*

[CONTINUED]

By F. R. CUNNINGHAM, Boston, Mass.

In addition to the laps we have described for finishing pallet stones, we need a leather buff—it cannot properly be called a lap. It should be made of about the same diameter as the laps, and is conveniently made of a piece of sole-leather glued to the face of a wooden lap. A piece of maple or boxwood, about a quarter of an inch thick, mounted on a taper, serves well as the wooden lap, to the face of which the leather is glued. After the glue is dry, the leather may be turned to shape and size. The outside of the leather—the hair-side of the skin—is of finest grain and toughest; therefore, if the piece which we propose to use is much more than an eighth of an inch thick it should be shaved down on the back to about this thickness and carefully smoothed with sand-paper before gluing. This leaves us the best portion of the leather for the working surface of our buff. We will explain the use of this buff when we are ready to use it.

Finishing the Stones

We now have a pair of round-face pallet stones to finish. The stones may almost always be removed by pressing on the edge of the stone with the thumb-nail. Should any shellac remain on the stone, on the side on which the locking occurs, it should be scraped off. This may be done with a sharp knife, scraping toward the unfinished end of the stone; or our small brass scraper may be used. We will first finish the locking face; we have already explained the manner of doing this, and will proceed with the finishing of the impulse face. The stone should be clamped in the holder (shown in the May KEYSTONE) with the impulse face as nearly as convenient parallel with the front edge of the plate *a*; the end of the stone should project somewhat over the edge of *a*.

We will now stand the tool up, with the point of *c* resting on the bench paper at a convenient distance in front of the lathe, and so the impulse face of the stone will be as nearly as possible parallel with the face of the lap. This position being found, we should make a slight puncture in the paper by pressing down the point *c*. This enables us to return the tool to exact position any number of times. After we have determined the most favorable position for the point *c*, it is a good plan to drill a small hole in the bench and insert a piece of brass wire with a female center in its upper end; the wires should be left, but slightly above the surface of the bench; then when we put on clean paper we may readily locate center by pressing on paper with the finger.

Parallelism of Stone and Lap

Parallelism of the impulse face of the stone with the lap may be judged very closely by examination with a strong glass, as the stone is held up against the lap; but we must not rely upon this wholly, for even after they appear perfectly parallel we sometimes find on beginning the finishing that the cutting is taking place near one side only, instead of over the entire surface, as it should be. Slight adjustment of parallelism may be made by moving the headstock of our lathe endwise.

This may seem a crude way, and perhaps it is, but it is very readily done and produces excel-

lent results with but slight trouble. When we consider the length of our pallet stone holder, from the point of *c* up to the clamp where the stone is held, we shall see that a considerable movement of the headstock endwise affects the parallelism of the stone and lap but slightly; so this adjustment is not a "fussy job," but may be done in less time than is required to tell it.

When we find that the cutting is taking place the whole length of the impulse face we will go ahead with the finishing. Thus far we have said nothing about following the curved face of the stone. This is done by simply rocking the stone on the face of the lap, as shown by arrows in

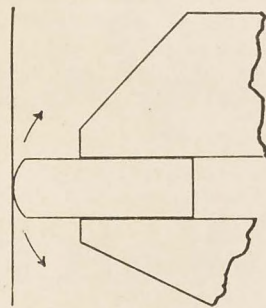


Fig. 82

Fig. 82, which is a view looking down on top of the lap in direct line with the body of the tool holding the stone. The tool is held lightly by the handle *b* between the fingers and thumb of the right hand. It is also sometimes convenient to grasp the part *c* lightly with the fingers and thumb of

the left hand. The slight circular movement of the stone on the lap is done by slightly rolling the handle *b* with the fingers and thumb of the right hand.

It might be argued that this plan makes the impulse face of the stone part of a cone, instead of a cylinder. This is perfectly true, but the length of the cone is so great that on the small surface of a pallet stone it cannot be distinguished from cylindrical form. Furthermore, as the rounding of the stones is only to lessen the extent of the surface in contact and the adhesion of oil, it is quite unimportant whether the face be part of a cone or a cylinder. The watchmaker who acquires a little skill in the use of these tools will certainly be pleased with the results, whatever he may think of the means employed. As the work progresses, frequent examination of the impulse face of the stone should be made with a strong glass, cleaning off the face each time with a piece of pith, for it is unwise to remove more from the stone than is necessary to bring it to perfect condition. It is understood that in the work on the stones we have thus far considered the shell lap only is used. Another thing, which we would impress on the mind of the workman is, in grinding or finishing pallet stones the laps should, when possible, move towards the obtuse angle of the stone; in other words, the long corner, or discharging edge of the stone should be uppermost; this makes it much less likely to chip the stone. Of course, when first bringing the stone in contact with the lap, we must be careful, lest the stone dig into the lap, for sometimes it will happen that we have not perfectly adjusted the parallelism of the impulse face with the lap, and the long corner will be slightly in advance of the other.

Chamfering the Corners

Let us assume that we have now brought the impulse face down to a perfect surface. The locking corner will be sharp and smooth, also the discharging edge of the stone. These corners must be slightly chamfered by holding the stone against the lap as shown in Fig. 83. For this operation, the tool may be held in the hand only—the point of the part *c* does not

rest upon the bench. In this matter of chamfering care must be taken not to overdo it; a slight touch only to the lap being needed. The touch should be slight also, for the sake of the lap; very great pressure when the corner of the stone is brought in contact with the lap would certainly cut a groove in the lap.

It would be difficult to lay down a hard-and-fast rule for the amount of this chamfering; it must be but slight. The beginner should carefully examine new pallets as they come from the factory, though some are very faulty in this particular, being left too sharp. After the sharp corner has been removed, we substitute the leather buff for the shell lap in the lathe and, applying a small quantity of No. 5 diamond powder by means of our steel spatula, lightly buff the face and corners of the stone. This slightly rounds the corners and smoothes the surface, giving the stone the finished appearance of factory work. Of course, the buffing must not be carried too far, else the corners will be too much rounded, and the perfect truth of the surfaces injured; but a few seconds is generally enough for the buffing. After we have acquired a little skill, fifteen minutes is ample time in which to refinish a pair of pallet stones. We have detailed the finishing of but one stone, both being substantially alike.

Refinishing of Covered Pallets

In the refinishing of covered pallets of the Swiss or English type it is not generally possible to do the finishing so the microscopic lines will run in the direction of movement of the tooth except on the locking face of the entrance pallet. Let us suppose we are to finish the impulse face of the entrance stone in a pair of covered pallets.

We fasten them in the tool with the entrance pallet projecting, as shown in Fig. 84. It will be observed that the locking face is uppermost, instead of as recommended for visible pallets; this cannot be helped. In finishing the impulse face of the pallet we are now considering, we rest the part *c* of the pallet-holding tool in a slight notch in the front edge of the bench.



Fig. 84

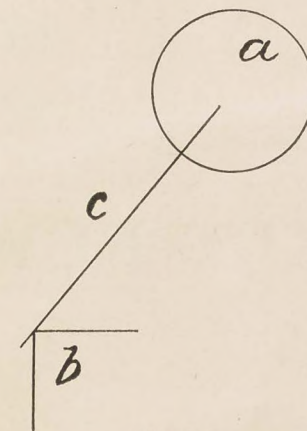


Fig. 85

The tool must lie along a line drawn from this notch to the center of the lap, as shown in Fig. 85, in which *a* represents the lap, *b* the edge of the bench, and *c* the line along which the tool must lie. It will be seen that under these conditions the grinding lines will run at right angles to the direction of movement of the tooth across the stone; a little consideration will also show that it is not practical to finish this type

(Continued on page 997)

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TOOLS AND METHODS

(Continued from page 993)

said nothing about the style of pivot polisher to be used. Nor do we wish to prescribe any particular make; if the watchmaker is buying a new one, he is advised to choose one having means of raising or lowering the spindle. Other things being equal, we would choose a small spindle, as being more sensitive and better adapted to delicate work. The spindle must also be capable of adjustment to any angle in the horizontal plane.

For the grinding lap, we prefer soft gray cast-iron; some like soft steel. We have used both, and both are good; but our preference is cast-iron. For grinding the pivot and shoulder we have been considering, we need a plain lap with parallel sides, as shown in Fig. 30, the

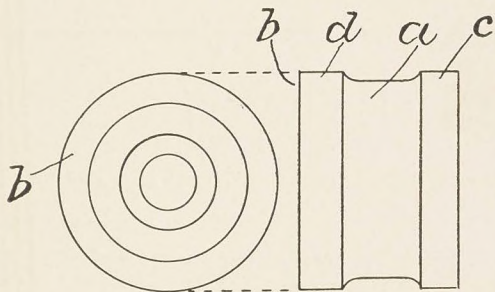


Fig. 30

central portion being removed to a depth of about 1 mm. by a round-nose cutter, as shown at *a*. The front end of the lap is hollowed out, leaving a rim *b* projecting considerably beyond the end of the spindle, which fits the taper hole in the center.

[TO BE CONTINUED]

TALK TO AMBITIOUS WATCH-MAKERS

(Continued from page 995)

of pallet and have the lines run parallel with the direction of movement of the tooth.

In finishing the locking face, the pallet should be clamped with the impulse face uppermost. For this surface the tool may be held in the same position as in finishing the impulse face of a visible pallet stone. To finish the locking face of the exit pallet is

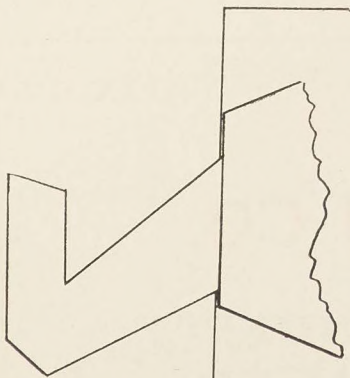


Fig. 86

slightly more difficult; we hold it in the manner shown in Fig. 86 and hold the tool *behind* the lap, as shown in Fig. 87. Finishing the impulse face of the exit stone is practically the same oper-

ation as finishing the impulse face of the entrance stone, except that we must work closer to the edge of the lap. In any case, where the grinding

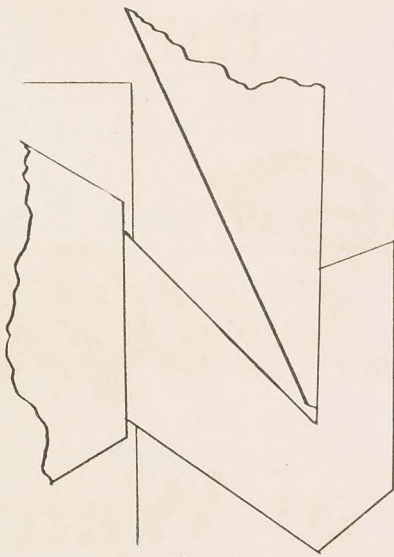


Fig. 87

lines must run at right angles to the direction of movement of the escape tooth, we should move the tool slightly endwise while finishing the stone; this produces a crossing of the grinding lines, and much smoother and truer work. The same precautions in the matter of rounding the corners must be observed as recommended for the visible pallet stones.

[TO BE CONTINUED]

Deposits of Meerschaum

Deposits of Meerschaum have been located in New Mexico, according to a report made to the Geological Survey by Douglas B. Sterrett, one of its special agents. These deposits are in the upper Gila river valley, one about twenty-five miles northeast of Silver City and the other at a mine about twelve miles northwest of Silver City. Mr. Sterrett recently visited the deposits and secured samples, and says that these samples when tested contained iron stains and particles of grit and were inferior to the meerschaum of Asia Minor. He says, however, that the more compact massive material may perhaps be found free from stains and of better quality at a greater depth.

The Dorsey mine visited by Mr. Sterrett, lying twelve miles northwest of Silver City, is in the bottom and walls of the canon of Bear Creek. This canon has steep cliffs about 100 feet high at the base and other cliffs above rising to a height of several hundred feet. The rock forming the canon walls is chiefly light and dark gray to brownish gray limestone, with some sandstone strata included. The meerschaum occurs in veins, lenses, seams and balls in the limestone. All but the balls are filling of fractures and joints which do not seem to be confined to any definite direction. The veins are filled with chert, quartz, calcite, clay and meerschaum.

The principal source of meerschaum supply has been for many years the deposits in the plains of Eskishehr in Anatolia, Asia Minor, about 120 miles southeast of Constantinople. Deposits of the mineral are also reported to occur in Greece, on the island of Euboea; in Moravia, Austria, near Hrubshitz; in Spain, near Vallecás, Madrid and Toledo, and in Morocco.

Meerschaum is a principal article for manu-

facturer into pipes in thriving industries in parts of Germany and Austria. The headquarters in Germany is at the town of Ruhla, in the Thuringian forest. According to figures from Consul George N. Ifft, of Annaberg, there are between 3000 and 4000 workmen employed at the industry, which was started in 1767. It is said that the supply of meerschaum is becoming low and that the manufacturers experience great difficulty in obtaining the necessary material to keep their factories going. This scarcity is said to be caused partly by failure of the mines in Asia Minor to meet the demands of the trade and partly because American and English agents have gained control of the Asia Minor production. Similar difficulties are reported in the Austrian Meerschaum industry.

Artificial Precious Stones

Consul William Bardel, of Bamberg, advises that about forty artificial precious stones were recently submitted to the Museum of Natural History at Berlin by an association which claimed to have made these stones, based on the process which recently created so much attention.

Several official experts, among whom was the professor having knowledge of gems in the Museum of Natural History, two practical experts and the chief master of the gold and silversmiths' guild of Germany, were requested to make a careful examination of the merits of the "so-called" new discoveries. The report submitted by this committee of experts reads as follows:

"Of the variety of stones we examined we were favorably impressed only by the artificial rubies. Among these were some of great beauty, and worthy of consideration.

"The white sapphires were of no account at all; they appeared dull and washed out. Well imitated were the new yellow precious stones; they really resembled the topaz very closely; but this invention carries with it only very little value, since the real topaz is found in such large quantities that they sell at from 2 to 3 marks (47.6 to 71.4 cents) a gram. Therefore it would seem of little importance to imitate such common stones. Of all the stones we examined, we can only call the artificial rubies a direct success; but the imitation of this latter species of precious stones is no new invention. We therefore declare that there is nothing new or sensational in the claimed invention."

Ceylon Pearl Shells

Replying to an America inquiry as to the opportunities for purchasing the shells of pearl oysters in Ceylon, Consul E. A. Creevey writes as follows from Colombo:

"The price of pearl shells in recent years has varied from \$26 to \$35 per ton c. i. f. at Continental ports. While supply and demand have been the chief factors in determining the price, the quality of the shell and the mode of packing employed have also had their influence. It is expected that the price in 1908 will be higher, as it is stated that there will not be a pearl fishery season, owing to unfavorable conditions on the oyster banks. Even when a large fishery is made it is sometimes impossible to secure large quantities of shells because of irregularities of shape and the prevalence of worms which eat the shells; also at times there are excessive excrescences."

"Can't make any suggestion to improve The Keystone; we do not want to spoil a good thing."
—Theo. C. Lindsey, Jeweler, Dayton, Ohio.



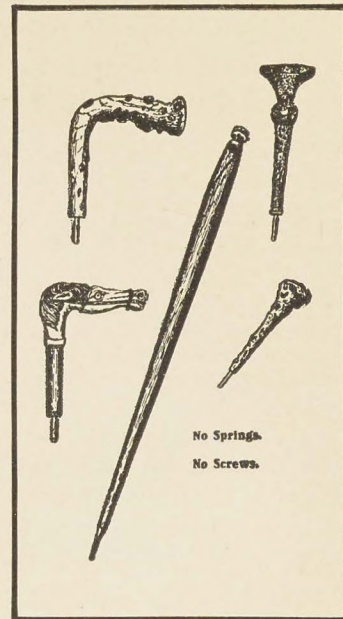
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Interesting Calculation in Horology

ED. KEYSTONE:—I have tried to work out the example you had in September KEYSTONE, to find the number of teeth in a wheel or leaves in the pinion when one of them is missing, but do not understand it. For example, the second wheel has 64 teeth and its pinion 10 leaves; third wheel, 60 teeth and its pinion has 8 leaves; fourth wheel has 63 teeth and its pinion has 8 leaves; escape wheel has 15 teeth and its pinion has 7 leaves. How would you get the right number of teeth for a wheel or the right number of leaves for a pinion, providing one of them was lost? Also tell me how you would set about cutting the leaves of a pinion to fit a wheel in a Swiss movement. I find it is pretty hard to cut a square shoulder and undercut it to rivet on the wheel.

Yours truly,

Bryan, Ohio

J. A. PODVIN.

The rules given in the September KEYSTONE for finding the number of a lost member of the motion work were not recommended for time trains, but were applied to motion work only. The problem of finding the number of a lost member of the time train is very completely solved on page 101, "Lessons in Horology," by the Grossmanns, which should be in the hands of all horologists. We reprint as follows:

How to determine the number of teeth in a third wheel which has been lost, knowing that the balance should beat 18,000 oscillations per hour and knowing the numbers of teeth in the other wheels and pinions?

Solution: Let us call x the unknown number and let the

Center wheel have 80 teeth Third wheel pinion 10 leaves

Third " " x " Fourth " " 10 "

Fourth " " 70 " Escape " " 7 "

Escape " " 15 "

The formula (8) admits of placing

$$18000 = \frac{80 \times x \times 70 \times 2 \times 15}{10 \times 10 \times 7};$$

or, simplifying,

$$18000 = 240 x$$

and

$$x = \frac{18000}{240} = 75 \text{ teeth.}$$

The lost third wheel, therefore, had 75 teeth.

If, in the preceding problem, the last mobile had been the third wheel pinion, how would the equation be solved?

Solution: We would have in an analogous manner:

$$18000 = \frac{80 \times 75 \times 70 \times 2 \times 15}{x \times 10 \times 7},$$

or

$$18000 = \frac{180000}{x}$$

and

$$x = \frac{180000}{18000} = 10 \text{ leaves.}$$

Still using the preceding data, let us suppose that the pinion and the escape wheel were both lost, and let us propose to determine their teeth ranges.

Solution: We will have, in this case, two unknown quantities, which we will designate x and y ; the equation (8) will be written

$$18000 = \frac{80 \times 75 \times 70 \times 2 \times x}{10 \times 10 \times y},$$

from whence

$$18000 = \frac{8400 x}{y}$$

and

$$\frac{18000}{8400} = \frac{x}{y}.$$

On simplifying,

$$\frac{15}{7} = \frac{x}{y},$$

The wheel, then, should have 15 teeth, and the pinion 7 leaves.

For further information on this subject we refer our readers to Grossmanns' work.

In reply to second question of our correspondent, if he uses a split chuck to hold the pinion, it is of great assistance to fill in between the leaves with lathe cement or wax. This is conveniently done by holding the pinion in a small pin vise, and holding the nut of the vise in the flame of a small lamp; the pinion will be heated by conduction sufficiently to melt the cement. If after cooling, any of the cement should project above the diameter of the pinion, it should be carefully removed with a small brass scraper. This filling of cement greatly strengthens the leaves, and the beginner is not so likely to break the pinion or the point of the graver. To turn a smooth square shoulder and a good sharp undercut *one must keep the graver sharp*.

To this inquirer we would recommend a careful perusal of our serial, "Tools and Methods," where many such points will be found elucidated.

Pearling in Australasia

Consul F. W. Goding, in stating that Australia produces the largest share of the world's supply of mother-of-pearl, and that for quality and lustre it is unsurpassed, makes the following report from Newcastle on this industry:

The most important centers of the industry are Thursday Island, Port Darwin and Broome. In 1901 and 1902 the average price of shell was \$2000 per ton on the London market. As the amount secured averaged four tons per boat per annum, and the expenses were comparatively small, large profits were realized. Naturally, competition among the pearlers for first-class divers is keen, with a result that wages and bonuses are good. The divers and crews working the pearling luggers are introduced under agreement with the federal government. They are imported for a period of three years, and on reaching port are immediately signed on the vessel's articles, thus bringing them under the operation of the merchants' shipping act. The master is also compelled to furnish a bond of \$500 for every man employed, as a guarantee that at the end of three years the man will be deported to Singapore, the port from which the divers are recruited. Formerly the pearlers paid the divers \$10 per month, \$100 to \$175 per ton bonus, and in many instances from 5 to 15 per cent. for the pearls won. Though arriving as raw coolies, some of these Asiatics earned from \$1000 to \$2000 per annum, with keep.

From \$2000 per ton in 1901 shell has gradually decreased in value, until at the last November sales held in London, it had fallen to \$600 per ton. The divers, most of whom are Japanese, are well organized, having their clubs and benefit societies, and every Japanese, whether belonging to the crew, tender or diving staff, is compelled by his countrymen to join. Everything pertaining to the welfare of the members is thoroughly discussed at the meetings and they usually succeed in whatever demands they make. In the past their demands, whether deemed reasonable or otherwise, have always been granted by the disunited pearlers, but now these are determined to lower the cost of production, which movement has caused a strike.

One of the results of the union has been the success which has attended the "dummying" of boats. The divers soon save enough to purchase their own boats, with others working them ostensibly as owners, who secure the fishing license and transact the business connected with the work on a commission. The act which stipulates that no Asiatic shall hold a license can thus be evaded. The Japanese dominate the situation, for without their aid as divers pearl-getting would cease.

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Mr. Jeweler

This is a cold and cynical way of starting to tell you what we have to say, but when we say this we are only using different words to tell you that "MONEY IS YOUR BEST FRIEND." There are some who don't believe this, but they are not in the jewelry business. A jeweler never chases this good friend from his door.

What we are getting at Mr. Jeweler, is that your old gold and silver is the same as money when you send it to us. It is worth more to us than it is to anyone else, and that means that it is worth the most to you when you send it to us. We will prove this to you if you will send us a shipment. We will send you a check, together with an itemized statement of what each article is worth by return mail. If the check is not large enough we will return your shipment and won't mind paying return express charges. If we didn't know our business from beginning to end, we wouldn't be making you such an offer.

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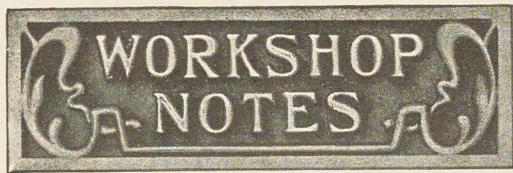
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An INDEX to the questions answered in Workshop Notes department for each year accompanies each December number. Subscribers are requested to preserve these indexes, and, before mailing questions, to refer to them, as similar questions may have been answered in previous issues. These indexes are arranged alphabetically, according to subject covered in each answer, and tell the issue and page on which the information may be found.

"Little."—*I would like to know what screw in the balance rim the roller jewel must face in adjusted American watches.*—Practically speaking the roller jewel should not have to face any particular screw in the balance for the simple reason that a properly made balance and staff should be in poise and a properly made roller table should be in poise. Therefore, when the roller table is placed on the balance with the roller jewel facing any screw, the wheel will be in poise, but in some of the finer grades of Swiss movements we have known the balance to have been thrown out of poise to correct a position error. In this case if we take the roller table from the staff it should be replaced in the same position as it formerly was, or we will destroy the position adjustment. The American watch companies very rarely resort to this practice in adjusting. When we get an adjusted movement to repair, it is impossible to say from its appearance whether the wheel has been thrown out of poise for position adjustment or not, or whether the wheel is in poise by itself, or whether the table is in poise by itself, therefore it is advisable, if we in our repairing have to remove the roller table, to replace it with the roller jewel facing the same screw in the balance as it did originally. In most all new adjusted American movements the roller jewel generally faces the center screw between the two arms, a suggestion which we think is a good one. "The Watch Adjuster's Manual," which treats on the adjustment of watches, would be of a great benefit to you in studying the subject of adjustment, as it covers this subject in all its details and can be purchased at this office for \$2.50.

"Flat."—(1) *I have trouble at times in drawing temper from staffs. I use a copper wire with hole in end just long enough for staff to center which goes far enough down to draw temper as far as is necessary to drill, but for some reason in some staffs it seems almost impossible to draw temper so as to drill at all. I use good drills that will not dull on the hard steel. Will you please tell me why and what to do to draw temper.*—I don't believe that your trouble in pivoting lies in drawing the temper, as the method you use is the proper one, but we would advise in drawing the temper to draw the end of the staff or pinion to be pivoted to a good blue or even beyond this color and also a little further than the depth you want to drill your hole. Be particular when centering the staff that your graver is good and sharp or it will leave the center burnished, which will dull the cutting edge of the drill. Another and important point is not to have the drill too pointed, a flat-face drill being much better for steel. The whole secret in pivoting is to draw the temper a little beyond a blue. Have a good sharp graver when centering a drill that is tempered hard, and no longer than is necessary to drill the depth hole we want. With a short drill more pressure can be used, with less danger of breaking, and having a flat cutting face, with such a combination we should be able to drill any staff or pinion.

(2) *Also please tell me whether it makes any difference in the time keeping of a watch if one pivot is smaller than the other.*—It would be impossible for a watch containing a balance staff that has one large pivot and one small pivot, even if the jewels would fit each pivot properly, to keep correct time. You will find if the watch would run correctly while the balance rests on the large pivot, that if you put the watch in such a position that it will rest on the small pivot the watch will lose

time because there will be less friction on the small pivot than on the large pivot. The conditions would be reversed if the watch would run correctly while resting on the small pivot. It would gain time if placed in position so that it would run on the large pivot. It would also be an impossibility for any watch having one large and one small pivot to be made to run correctly. By this we mean to have a rating. One of the things that the American watch factories are most particular about to-day in the production of the finest grade movements are that the pivots of the balance staff are absolutely the same thickness, and that the walls of the jewels are of the same thickness, because if these are not perfect it is impossible to regulate the watch so as to keep accurate time, and you will always find that where the pivots are not of the same thickness the watch will vary in different positions.

(3) *I have seen some American watches with flat ruby pin in roller table. Does it work just as well as half round?*—We do not quite understand what you mean by "flat ruby pin," unless you refer to the triangle pin, which when made properly is as good theoretically and practically as a half-round (two-fifths cut away) ruby pin. The half-round pin has been adopted by most all Swiss and American watch companies and has given the best of satisfaction. It is without a doubt the best ruby pin yet invented, but it is always advisable to replace in a watch the same kind of a ruby pin that the movement was constructed for.

"Diagram."—*Enclosed find diagram of an escapement which is represented to us to be a dead-beat. Will you please inform us whether or not this is a dead-beat escapement and we will consider it a favor if you will give us an outline of what constitutes said escapement.*—The sketch of the escapement which you enclosed is so crude that it is impossible for us to tell if it is a dead-beat or a recoil escapement. The dead-beat escapement is one which when the tooth of the escape wheel escapes from one pallet stone and drops on the locking face of the other it remains dead. That is, the escape wheel will not move forward or backward while the pendulum is taking its vibration. For illustration, did you ever notice the second hand on an old grandfather's clock after it had jumped a second, the second hand would move a trifle back while the pendulum is still swinging? Then when the pendulum returns it would move forward, then jump another second. An escapement of this kind is called a recoil because the escape wheel recoils, while a dead-beat escapement is one where the escape wheel does not recoil.

"Instance."—*In making a new clock, for instance, where the plates are too large for a universal head or upright tool, what is the best and surest way to find the upright spot on the top plate with one that has been drilled for a pivot in the bottom plate?*—There is no accurate way unless you use some sort of uprighting tool. In making a new clock the best way to proceed is to lay out on both of our plates the four post holes, drill them and fasten the two plates together by using bushings in these four holes, then proceed to lay out our pivot holes and drill through the two plates at the same time. If we turn up our four posts true and fasten them properly the pivot holes are bound to come upright, but if you have your posts in the clock plates and the pivot holes are drilled in one plate, the best plan would be to visit some good machine shop where they have an upright drill press with which you can upright and drill the holes in the upper plate.

"Soft."—*Can you tell me how to get that peculiar soft yet tough temper to steel that is so nice to turn and which will bend before breaking? I found such a condition recently in an old English staff. The steel seemed rather soft, the graver took off long chips, the pivots would burnish slick and apparently hard with little work and would glaze quickly.*—To harden and temper steel properly for staff work, first heat it to a bright cherry red, but of course avoid anything like a white heat. Pick up the wire with tweezers or pliers and plunge it vertically into the water. Next with a rather fine emery-buff, polish the gray off of the steel and lay

it on a copper plate heated above an alcohol lamp until the steel turns to a rich dark blue. This is the proper temper for a balance staff. Steel at this temper will turn without difficulty, although it will not seem to be soft to the touch of the graver, but of course, you can not bend it any appreciable amount without it breaking providing you should bend it past its limit of elasticity. It seems to us that the steel in the staff you mention would be too soft for a balance staff.

"Prices."—*Sometime ago you published in Workshop Notes the most approved plans for cleaning French clocks and restoring the brass work with a good finish. You say, as a part of the method given, "then dip them in a solution of cyanide." This has been my practice for years, but I find nearly always after dipping that, while loosening the tarnish so that a brush or scratch brush will take it all off, it always makes the plates appear more tarnished than before dipping and makes considerable work with a scratch brush and soap or soda getting off the tarnish after dipping. What proportion of cyanide do you use to the water, and is there any way to dip the plates or anything that can be added to the solution that will insure the plates coming out bright? Also, you say \$1.00 is the average price for cleaning. Is this a mistake? To clean a clock (French) in the way it should be done is worth at least \$2.50. We get \$3.50 here. You also say, \$2.00 for a balance staff. In making that price, do you refer to the French clocks that have lever escapements and balance staffs? Can you give me Philadelphia prices for cleaning French clocks, visible escapements, lever and cylinder escapements, Elliot and other double-chime clocks? Best shop prices.*—The proportion of cyanide to water which we find adapted to all-around use is a piece of cyanide about the size of a walnut to about a pint of water, the mixture being stirred occasionally until the cyanide is all dissolved. Of course, you must use cyanide of potassium; there are other cyanides, but this is the one which must be used. As to the cause of tarnishing, provided you use the right cyanide in the right proportion of water and yet find that the solution discolors the plates, it is possible that there might be some chemical element in the water you use which would produce the effect you mention. Should this be the case, you had better try clean, fresh rain water. We want to say, however, that very often, even when you have the cyanide solution perfectly right, the plates will come out of it not perfectly bright, but with a cloudy cast over them. After taking the plates out of the cyanide, wash them with soap and water and a brush, rinse in clear water, then dip in alcohol and dry in sawdust. If there is still something lacking in the appearance of the plates, take a brush with stiff bristles which has been used for quite awhile and is pretty well worn, and put a little fine-powdered rouge on the brush and brush the plates, etc., vigorously. The brush must be kept clean by washing with soap and water (of course, the brush must be perfectly dry when used) and the rouge must not be put on too thick, but just a little rubbed on the brush and the brush then tapped against the bench to shake out the surplus. Another method of going over the plates is to use a piece of chamois skin glued to a stick and charged with powdered rouge rubbed well into the chamois. This is rubbed over the plates, etc., in the same manner as one would use an emery buff. Of course, after either of these operations the holes must be carefully cleaned out with pegwood, and there must not be allowed to remain in any of the crevices any trace of rouge. The article you mention in which \$1.00 is stated as an average price for cleaning, is meant to apply to the cleaning of a watch. Three dollars and fifty cents is not at all too much to do a good job of cleaning a French clock, for it must not be forgotten that the labor does not stop with the shop work on it, but there is generally some further attention needed in the way of setting up and regulating the clock, which necessitates some time spent in going to the customer's house. We think \$2.50 would be about the right price for a balance staff in one of the French clocks that have lever escapements. As to prices in Philadelphia for cleaning French clocks, they vary considerably with the different jewelers: we might say they run from \$2.50 to \$5.00, while for cleaning and adjusting large double-chime clocks, we might state \$10.00 to \$15.00 as the average run of price.

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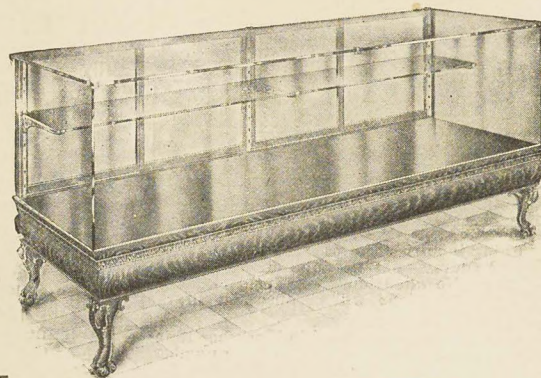
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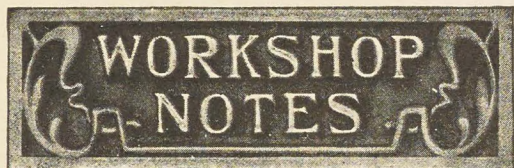
into the school is this:—On receiving a request for catalogue and information, we send to the inquirer a list of questions to be filled out with answers and then returned to us. When you do this your answers tell us what your experience has been and what your present ability is. On this information we estimate how long a course of instruction you must take in our school to reach proficiency. This plan guarantees you against disappointment because you know *exactly* how much time and expense to arrange for, *before you start*. For instance, you will not be led into "guessing" that six months will suffice and then find after entering school that you will be only half through in that time.

Go to the school which tells you exactly what it can accomplish for you.

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 LANCASTER, PENNSYLVANIA



Subscribers wishing inquiries answered in this department must send name and address—not for publication, but as an evidence of good faith. No attention will be paid to anonymous communications. Questions will be answered in the order in which they are received.

"Recoil."—Which pallet jewel has the most recoil in an ordinary watch and in a railroad grade?—In the first place we will explain that there is a very little recoil in the lever escapement. What little there is, is caused by the "draw." Draw is the tendency for the pallet stone which is at the moment locked, to be drawn in toward the escape wheel center, and this effect is produced by tilting the pallet stones at a comparatively slight angle from a tangent to the circle in which they work. Of course, in "drawing" the pallet stone toward the center of the escape wheel, the wheel moves forward a very little after the first impact of the locking, and in unlocking the wheel the pallet will force it a small distance in the contrary direction. This is all the recoil which is to be found in the lever escapement. The angle of draw is in practically all cases the same on both pallet stones, consequently the recoil will be the same on both sides. While the amount of recoil is the same both in circular pallet escapements and in those with equidistant lockings, still we must not confuse this with the fact that the amount of force needed to unlock the two pallet stones, while equal on the escapement with the equidistant lockings, is not so on the escapement with the circular pallets. In the latter the entrance stone will require more force from the balance to unlock it than the exit stone. The reason for this will be seen by looking at drawings of the two different types of escapements in which it will be noticed that the acting length of lever arm is longer on the entrance side than on the other, consequently absorbing more power in overcoming the resistance of the wheel. While it might seem to be desirable to have the unlocking resistances equal on both sides, still it does not seem to be much of a disadvantage practically, and nearly all watches nowadays are made with the circular pallets instead of those with the equidistant lockings. The explanation above applies to ordinary watches as well as to the higher grades, as there can be no distinction made in this matter between different grades of watches.

"Wooden."—I wish to make up one or more wooden clock movements, just like the old-fashioned ones of from fifty to eighty years back, which are practically all alike. I do not care anything about making the striking side, simply the time train. What I would like to know most is what kind of cutters are used for cutting the teeth and pinion leaves of the train. I have had considerable experience in cutting watch wheels of various kinds which have been successful. I have tried common watch wheel teeth cutters on wooden wheels of small diameters which worked fairly well, but I discovered that when I made a cutter myself for cutting teeth in wooden blanks, I could not get a smooth finish on the teeth, and I imagine the cutters for wood must be made more like saws than the regular cutters for metals. I notice that in all the old wooden wheel clocks the large wheel teeth are all made to rake slightly and that they are not made round bottom, neither are the outer ends of teeth much rounded. Now that leads me to think that the cutters which made these teeth were made with some kind of saw-like cutters which may have had some "set in them," as a carpenter would say that a common saw must have in order not to bind in the wood. Can you enlighten me on this score and tell me who would be apt to make cutters of that kind.—Probably the trouble you experience in cutting wooden wheels smoothly lies as much in the material you are working with as in the way you are doing it. The old makers made a practice of boiling the wood in oil before working it up, and possibly if you would follow this it would help in getting good results. You

cannot, however, get the best results with the milling cutters—that is, with cutters on which there are a great number of shallow teeth. The trouble with these is that they fill up with wood shavings and by and by cease to cut. We have cut wooden wheels satisfactorily with a single-tooth fly-cutter and we recommend you to try one on the work you have. The reason the teeth were shaped the way you mention was in order to get the broadest possible base for them to prevent the strain of action breaking the teeth.

"Brocot."—Please give a minute and detailed explanation how to set pallet jewels in a visible escapement of a French clock. What is used for the cement? How is the heat applied? What is the proper angle of the jewels? If the inside pallet catches, what is the trouble? If it does not occupy too much space, I would like a complete explanation how to do this properly.—We insert a cut as the best means of making clear what you desire to know. Fig. 1 shows the Brocot escapement. In order to set it up correctly, start with one of the pallet stones, say, the one shown at *a*, and hold the anchor in position so that the point of one of the wheel teeth is exactly over the center (*i. e.*, the lowest point of the circle) of the roller. While holding the anchor in this position lay a straight-edge of some sort across the wheel center

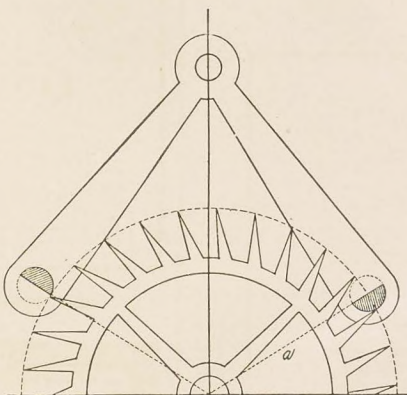


Fig. 1

and continue it over to the pallet stone. Now see that the flat side of the pallet stone lies exactly in the line *a*, which will be the case when the straight-edge held over the wheel center touches every part of the flat side of the pallet stone, as indicated in the illustration. Apply this test and if you find that the pallet stone needs some moving, hold it over an alcohol lamp until the shellac holding the stone softens, when the stone can be easily turned around to the proper position. Be careful then to have the length of the stone stand at a right angle to the pallet arm. The stone on the other side is then to be set in the same way. If you need fresh cement for holding the stones, get some shellac at a drug store and use it by heating the pallets until the shellac will melt when touched to the joint, and flow into it. It will harden immediately when the pieces cool off.

"Sixty."—I am making a sixty-beat regulator with gravity escapement to have a twelve-pound pendulum. How heavy shall the impulse lever be and what kind of material should they be made of? Should the lever pivots be jeweled? I wish to make a pendulum with hardwood rod and lead column for compensation to look something like the design of the mercury bob. How high shall the lead column be for hardwood like maple or cherry, also for softwood like white pine? I have heard that a lead column should be about 10½ inches for a seconds pendulum, but am not certain.—We take it that what you term "impulse lever" is what is almost universally called the "pallets," or, less often, the "anchor."

The best material to make the pallets of is steel, hardened and tempered. The rule for the weight of this piece is simply to make it as light as possible and yet solid enough to secure the necessary stiffness. You can determine this only by judgement, which it may be necessary to get by

experience. We do not consider it important to jewel the pallet arbor pivots.

The best wood to use for the pendulum rod is white pine, which should be varnished to keep out moisture. No absolute limits can be prescribed for the height of the bob, but different authorities prescribe all the way from 10 to 12 inches, and you might start at some figure between those extremes, and then adjust the pendulum after the clock is finished, by keeping a daily record of the going of the clock and of the temperature, which will show whether the pendulum "compensates" too much or not enough, and if the latter, add metal to the column, and vice-versa.

"Model."—In your February Keystone you commend "Watch and Clock Escapements" to a subscriber who inquired about the construction of a model escapement. I procured a copy of that book for that purpose. It is a well written book and explains everything thoroughly. However, it does not state how to make or procure a hairspring and pallet stones.—You will have to have pallet stones made of glass or agate by a lapidist. Send sketches with the exact measurements, or wood models, to any reliable lapidist, among whom we mention the G. B. Darling Lapidary Co. and H. C. Luther & Co., both of Providence, R. I. As for the hairspring, we believe that you can get from a material dealer a Swiss watch mainspring which will answer the purpose satisfactorily. If not, however, you might write to Houghton & Richards, Boston, Mass., who could either furnish flat steel wire such as you need, or else tell you where you would be able to get it. Wire of this shape is in the market rather irregularly, but we think that some one would have it. Of course, if you would find it impossible to buy, you could take round steel wire and roll it to the shape you desire in a pair of jeweler's rolls. The wire would probably come out of the rolls curved vertically, too much to allow you to coil it into a spring without straightening it. We suggest that you first try to buy what is necessary and if you are unable to procure it, or have any trouble in making up what you want, write to this department and we will be glad to advise you further how to proceed.

"Cancel."—I have an old English verge watch which has the cannon pinion lost, but I have both of the original dial wheels and want to make a new cannon pinion. The number of teeth in the upper dial wheel is thirty-six—this is the one that carries the hour hand. The lower or plate dial wheel that lays flat on the plate of the movement has forty teeth on its greatest diameter and its pinion in center has twelve leaves. I wish you would kindly tell me how many leaves the cannon pinion needs. I put in one with 13 leaves, and it runs the hour wheel too fast. I made another with 14, and that goes to fast. I made another with 12, and that runs the hour wheel too fast. I am unable to figure it out, and if you can kindly inform me how many leaves to put on this cannon pinion I shall be greatly obliged to you. Kindly give me the information by letter, as I do not wish to wait for it to come through "Notes and Queries."—In figuring dial trains the object is to make the hour hand turn one-twelfth as fast as the minute hand. The number of the teeth on the wheels and leaves on the pinions must be so proportioned that when the wheel teeth are multiplied together and the pinion leaves multiplied together the former product will be just twelve times the latter. Instead of going through the multiplication and division, it is easy to work this out by cancellation. Counting the leaves and teeth you now know the numbers of, you set them down this way:

$$\begin{array}{r} 12 \times ? \\ 36 \times 40 \end{array}$$

Now, it will be seen that what is wanted is some number of leaves for the cannon pinion in place of the question mark, that will make the whole cancellation produce the fraction one-twelfth, which is the ratio desired, as explained above. Try several different numbers and work out the cancellation; you will find then that by placing 10 in place of the interrogation point, the problem will be solved.

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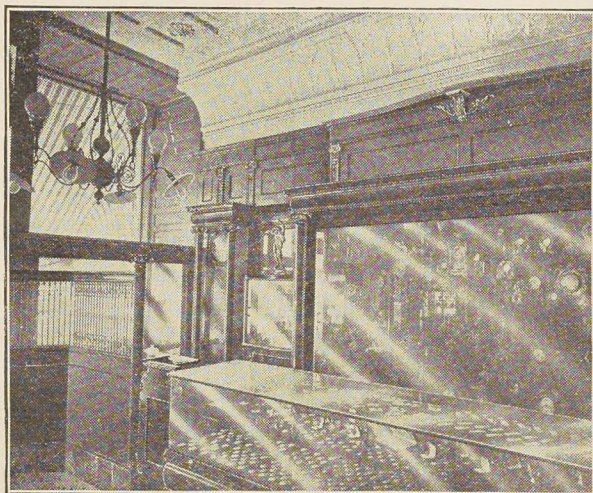
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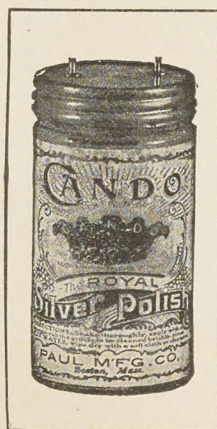
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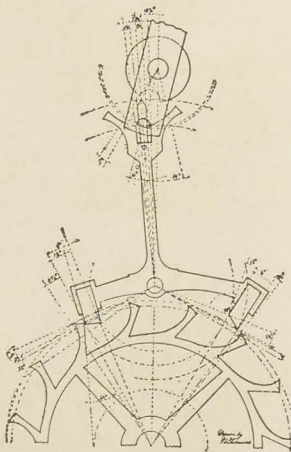
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The Show Window

In regard to window displays for June, the season and month will suggest numerous ideas. The keynote to one of the most fetching designs will be found in the cover design on this issue. As June is the month of weddings and as there is always a summer harvest for the jeweler in the sale of wedding gifts, it is good business for him to keep posted on the dates of forthcoming weddings and take advantage of the opportunity by displaying such wares as are suitable, and such qualities as fit the purses of those in the sphere of society with which the young couples are associated. No one, let us hope, is so devoid of sentiment as not to be attracted by a handsome display of wedding gifts.

Display With Figures

There are many forms which such a display may take. One of the most impressive is a design with two figures representing a bridegroom and bride after the manner of our cover design, shown as a central feature. We recall an instance in which the two figures were used to exceptional advantage and in a manner that enabled the jeweler to direct attention to practically his entire stock. The figures were first posed as sweethearts, the gentleman being in the act of presenting the engagement ring to the lady at his side. The surroundings

were quite appropriate and the goods displayed were mainly rings. A necklace, a brooch, a comb, bracelets, chatelaine, etc., were shown on the prospective bride, while the gentleman gave evidence of his comfortable circumstances in a diamond scarf pin, a set ring, gold cuff buttons, etc., all in excellent taste. A little romantic suggestiveness was lent to the scene by a cupid which was suspended from the top of the window and held in its hand a wedding ring. A card called attention to the jeweler's superb stock of goods shown and the advantages of purchasing them in his store.

Variety of Poses

A few days later the two figures were shown in the guise of shoppers as invited guests to a coming wedding in the act of selecting suitable gifts for the happy couple. This offered an opportunity for an imposing display of wedding presents, chiefly in silverware, cut glass, bric-a-brac and art goods. In this case also a card directed attention to the voluminous stock of these goods which the jeweler had at the disposal of the public and inviting observers to enter the store and inspect them.

A few days later still, the window presented a new scene, the idea being somewhat similar to our cover design. In this case the newly-married couple, suitably dressed, were gazing in admiration at the presents received. Cut glass, silverware, clocks, bric-a-brac, etc., were shown in attractive profusion and a dainty card with the name of the jeweler was placed in each. The last scene represented an

evening at home, and showed the happy couple seated at their dinner table. A well-stocked china closet was in evidence and a pretty clock and candelabra graced the mantel. The table furnished an opportunity for displaying cut glass, silverware and china. This proved one of the most effective of the displays, exciting the admiration and envy of the crowds who gazed at the pretty scene.

We were informed that these displays resulted in large sales, and were very effective in spreading the fame of the store. The cost in this particular case was practically nothing as the figures were lent by a friendly dry goods store and the good taste of the wife and daughter of the jeweler was enlisted

in arranging the detail of the displays. The ingenious window trimmer will doubtless add many little touches to emphasize the purpose of the display, such as showing the goods on heart-shaped mats, the use of suspended cupids, wedding bells and floral decorations.

The June Commencement Season

The June commencement also furnish a fine opportunity to the jeweler, as the custom of presenting graduates with gifts is each year becoming more exacting. In this case also a figure may be used appropriately in the window and numerous ideas suitable for such a display will suggest themselves to any trimmer. It has been the custom in recent years for many jewelers to offer prizes to the most distinguished pupils in the local

schools and the display of these prizes invariably attracts considerable attention. It is now generally accepted that enlisting the interest of the young people is a chief factor in success, and no better opportunity for doing so presents itself than the time of commencement.

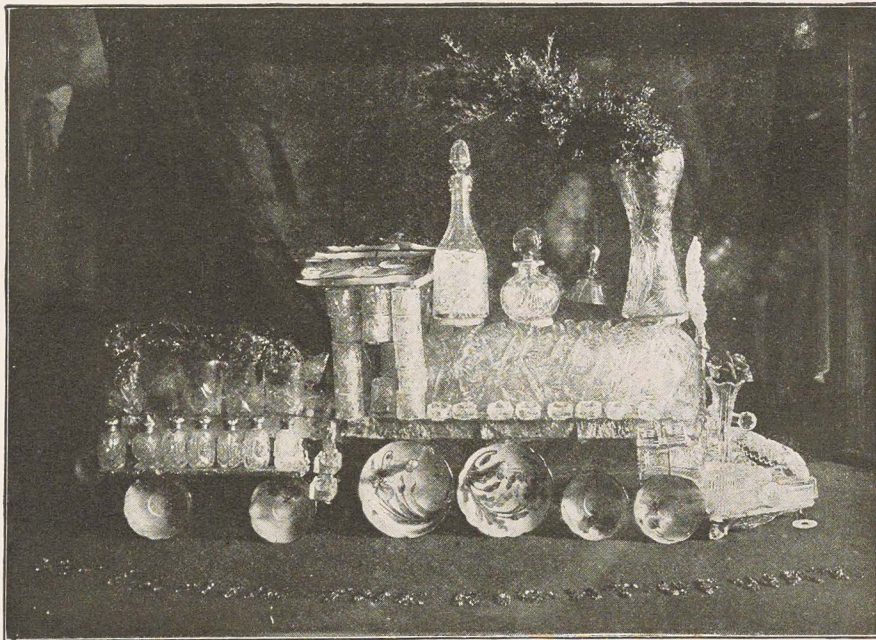
A Unique Design

The locomotive in cut glass and china, shown on this page, was executed by James Mitchell, watchmaker and jeweler with Glen A. Coulson, Greenville, Texas. The idea is an excellent one and could not fail to have attracted much attention. The engine was five feet long and thirty inches high. It was made from eighty-eight pieces of cut glass and twelve pieces of china, every article being shown plainly. We thank our subscribers for the many excellent Easter designs sent us which we will reserve for future use. One of these of the conventional kind is shown in illustration printed herewith.

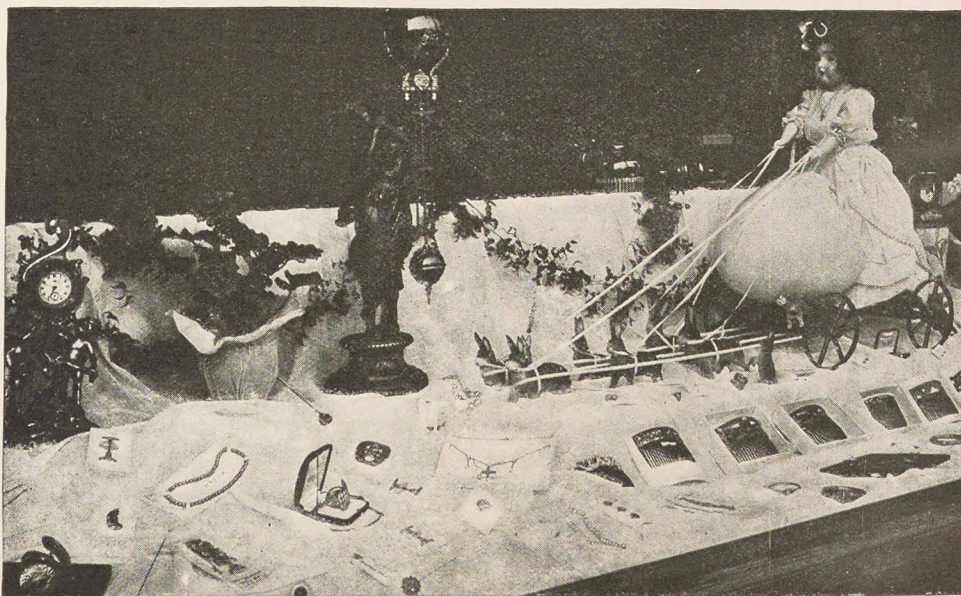
Lighting the Window

An expert window trimmer gives the following hints to his brethren in an article in the *Merchants' Record and Show Window*:

Whenever an electric light in a display meets the vision of the eye when looking at the exhibit, see that a frosted globe is used and not a plain one. The frosted light adds a softness and beauty to the scene not obtainable by the plain globe. If auxiliary lights are used in the background of a display be sure they are not too strong. Use either a 4-cp. or 8-cp. frosted lamp.



Unique window display—Cut glass locomotive



Easter display by Johnson & Taylor, Marshall, Minn.

Necessity of Thoroughness and Punctuality in Modern Business Life

"Thoughts on Business" is the unpretentious title of the new volume of some 240 pages from the pen of Waldo Pondray Warren.* The "Thoughts" are in the shape of short editorials, each of which contains ideas and suggestions based on the author's experience and of much practical value to all engaged in any capacity in the industrial or business field. We reprint the following extracts from this interesting book:

* * * * *

Learn to be Thorough

One of the universal faults is a lack of thoroughness. From the boy who copies his arithmetic lesson from a school-mate's paper to the old man who leaves ambiguities in his will for his heirs to quibble over, there is a lack of thoroughness in almost every transaction. The unwritten motto of the average person is, "To seem and not to be." Most people are willing to let well enough alone—and they have a modest standard of what constitutes "well enough."

It is because of the wide prevalence of this fault that the really thorough man does and does not get the credit that is due him. He usually does not get it when his work is superficially judged by those who are themselves not thorough. But he does get it when his work is put to the test and fairly compared. And, best of all, he has the satisfaction of knowing for himself that he has done his duty, and therefore has gained a point of self-discipline which he can never really lose.

The man who aspires to rise above the average in any line of endeavor should ponder well this point: The average person is not thorough, and therefore even a little thoroughness will surpass him. This should inspire the ambitious man to be thorough. And he will soon find that thoroughness practically measures the difference between the average and the highly successful man.

* * * * *

Headed for the Top

Resourcefulness is the star accomplishment. It is the master key that fits all the locks of business requirements.

I recently heard a good story about an office boy—may his tribe increase. He took the message to Garcia and got it there on time.

The boy was given a letter to be delivered to a man at his home that evening, and was told that it was very important that the man should have the letter before 8 o'clock. When he got there "Garcia" had gone out, and his family did not know where. The boy asked where he might possibly be, and they couldn't even guess. Then he asked for the names of two or three of the man's most intimate friends. When these were given he made haste to the nearest telephone and explained the situation to one or two of the friends and got them to guess where he was. Then he telephoned to one of the guesses and found that Garcia had just been there, but had gone out with the man of the house, and his family didn't know where. But they made a good guess, which proved true. The boy got Garcia on

the telephone at a clubhouse two miles away and explained that it was now three minutes to 8, and asked permission to tear open the letter and read it to him. This the man agreed to, and received the information just in time to enable him to be present at an important meeting.

* * * * *

All Work is Practice

I was talking with a business man about the success of a well-known manufacturer, now many times a millionaire.

"I knew him when he was a boy," said the man. "The first thing I can remember was that he beat me at a game of checkers. We played four games, and he beat me every time. I remember it well. But he was that way about every thing. He was the best ball player, the best skater, the best tennis player—the best in everything he went into. In school it was the same way. I remember one time he got only third place in the Latin class. He made capital out of the fact, though, for he went at that Latin as if his life depended upon it, and that's about the last time I ever heard of anybody getting ahead of him. After he got in business it was the same way. Nobody ever accused him of doing things by halves. It's no wonder to me he got rich, and I believe he earned every dollar of his money by doing everything a little better than the next person."

Everything we do is merely practice-work for something greater, and we grow in capacity in the proportion that we throw our best efforts into whatever we undertake.

* * * * *

Doing More Than You Can

Necessity is the discoverer of hidden capacity no less than the "mother of invention." A factory superintendent was telling

me that he was turning out 800 dozen a month of an article with the same force and with the same equipment that he used to turn out 300 with.

"You must not have been working up to your full capacity before," I said.

"Evidently not," he said. "But we thought we were. I thought so, and the men thought so, and the members of the firm thought so. If anybody had told me we were not doing our very best I should have been offended. But the business began to increase, and the orders kept pouring in, and we got behind and simply had to do more. With the work crowding in on us we simply had to organize the work some way to get it done. There wasn't room to put on a few more men—none to speak of. But we put more speed on the machines and laid out the work more systematically so as to utilize any waste energy, and the first thing we knew we were actually producing more goods than we had thought it possible to make. It does not seem now that we were running at the highest possible capacity. But I suppose if we had to do it we would find some way to increase our present output."

* * * * *

Working for Yourself

It is always a helpful thought for an employee to go about his work, not with the thought that he is working solely for

his employer, but that he is really working for himself.

"I always tell an employee," said a merchant, "that he is working for himself just as much as if his name were over the door. We furnish him

capital, space to work in, and give him the benefit of our systems of handling merchandise, and all that, but what he does is in a sense his own business. If he sells goods, or packs them for shipment, or makes out bills, whatever he does he contributes toward a portion of the net receipts of the store. He is entitled to what he actually earns minus what he pays for rent, capital and other accessories. If he does well his business will grow and he will get the benefit of it. And if he does not do well he will make a failure of his business—just as if he were closed up by his creditors. We can't give him room if he won't pay his rent, or pay interest on the capital we lend him, and so he has to go out of business. In many ways he is virtually in business for himself, and will stand or fall on his own efforts."

If this idea were more thoroughly understood by employees everywhere it would do away with a great deal of the desire to shirk and pretend, and would inspire each one to put forth his best efforts.

* * * * *

Wasting Time

The employee who is inclined to waste time, whether by arriving late in the morning, by quitting actual work before closing time, or by unnecessary inactivity during the intermediate portions of the day, should look at the matter once in a while from the employer's standpoint. When this is done fairly and squarely there will be less murmuring because of any strict time regulations made by the employer. And, with employees who are conscientious, there will be less disposition to waste time by tardiness or loafing.

An employer recently explained to me just how the matter looked from his point of view.

"Suppose," he said, "an employee wastes ten minutes a day. That is an hour a week, or fifty-two hours a year. A week with us has fifty working hours in it. So, you see, the man who wastes ten minutes a day wastes a week in a year. If I only had one employee I might not mind it, but as I have over 300, it means that I have to pay for 300 weeks' service that I don't get. And, furthermore, ten minutes' waste of time is a very low estimate. Many a fellow punches his time on the clock all right, prides himself on his punctual record, and then wastes perhaps an hour a day idling around. Loafing is more or less contagious, and so the idler not only wastes his own time, but unconsciously influences others to do the same."

Engagement Bracelet

The newest Parisian fad is the betrothal bracelet. It is not worn on the wrist, but on the upper arm, the left arm, as nearest the heart.

The fashion is said to have been introduced by Princess Marie Bonaparte, who received from Prince George of Greece instead of the traditional ring a double band of gold made to fit about her arm close up to the shoulder.

The two broad rings of which the ornament consists were chased with an antique design and studded with diamonds and sapphires and had a clasp of diamonds.

The engagement bracelet is made in many forms, however, sometimes with bangles of gems and sometimes with little chains of pearls looped from it. Often, says the *New York Sun*, it is perfectly plain save for a single fine diamond or a small star of brilliants.

* Published by Forbes & Co., Chicago.

HOW WIRELESS TELEGRAPHY WORKS

An elementary explanation of the phenomena involved in the transmission of a wireless message is contributed to *The Independent* (New York) by Dr. A. E. Kenelly, professor of electric engineering in Harvard University. After showing how a boat in a lake might signal to another boat by means of the spreading ripple due to a stone dropped into the water, he goes on to explain that electric-wave telegraphy operates in a somewhat similar way, using electric waves traveling through the ether over the earth's surface. The electric splash or disturbance is created at the sending station by the sudden charge or discharge of a wire or wires on a tall mast, while the expanding waves, being invisible, have to be detected by a delicate electric device connected to a mast placed within the working range. The advancing electric waves strike the receiving mast and produce feeble electric splashes, or disturbances, in the wire or wires suspended there. We read:

Wireless Telegraph Waves

**Wireless
Telegraph
Waves**

"It is necessary to regard the wireless telegraph waves as running through the ether rather than through the air, even though they appear to be carried by the air. If the waves are carried by the air they would be sound waves, which have quite different properties, and which, moreover, are only capable of being detected ordinarily at relatively short distances. There is every reason to believe that if the air which surrounds the globe could somehow be completely removed, so as to leave only so-called empty space on its surface, the electric waves would still be able to run over it, substantially as they do now with the air present. It is universally admitted that so-called empty space, or interstellar space, must be occupied by something invisible, which is called the ether, and which transmits light, heat and electric disturbances generally. This ether permeates all matter, and the atmosphere is permeated by it. Consequently, the wireless telegraph waves run through the atmosphere, but are borne by the underlying invisible ether.

"If we assume that our eyes could see an electric wave of wireless telegraphy running over the earth, just as we actually see the waves running over a pond, or the shadow of a cloud running over a landscape, we should expect to see a hemispherical wave thrown out from the sending mast every time an electric spark discharge was produced there. The hemisphere would cover the land like an inverted bowl and would expand in all directions like the upper half of a gigantic, swelling soap bubble, at the speed of 186,000 miles a second. At the upper portions of the hemisphere, and particularly at the top, the waves would be very thin and weak. It would be denser and stronger in the lower portions, and especially in the lowest portion that spreads over the ground like a ring."

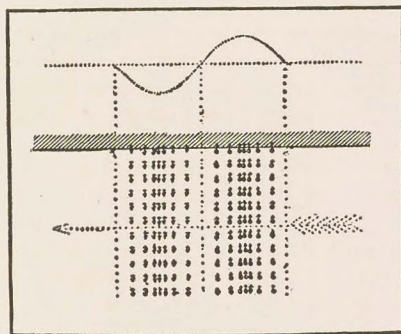
The Method Illustrated

The Method Illustrated

For example, the writer supposes the sending mast to be in the Brooklyn navy yard. If a single spark discharge, or electric splash, were made at this mast, corresponding to a "dot" signal in wireless telegraphy, we should see, if we had the imagined powers of vision, a hemispherical wave rush off from the mast in all directions. And just as a stone thrown into a pond produces one principal wave with a train of successively smaller ones, so an electric splash

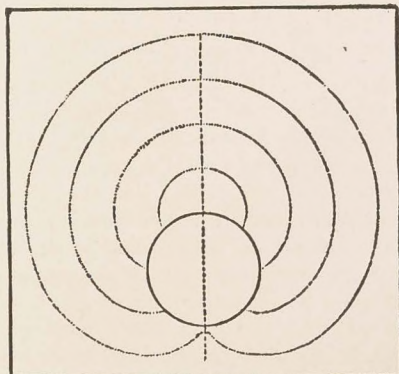
or spark discharge usually produces a similarly decreasing train. The writer goes on:

"Ignoring this detail, if we confined attention to the first or leading wave, we should expect to see a nearly vertical wall running over the sea and land, north, south, east and west, with the speed of light. The wave would, indeed, be made up of two successive walls, say first a 'positive' wall and then a 'negative' wall, with a clear space between, just as a water wave is made up of a positive wall, or crest, and then a negative wall, or trough, immediately behind, with a mean-level space between them.



Section of a single electromagnetic wave along line of advance and near to surface of the ground.

“If we transported ourselves somehow in a flying machine over the earth’s surface at the speed of light, Jules Verne’s celebrated flying projectile being hopelessly too slow for our imagination in this respect, we could keep up with the outgoing wave and watch what happened to it as it ran. . . . If it could be kept going for a single second of time the wave would have passed New York on the seventh time around the world, [but] . . . in practice the waves have not yet been detected at distances exceeding a few thousand miles from their source. The reason is that



Hypothetical expansion of wireless telegraph waves over the globe.

they weaken so much as they expand, [and also] . . . by absorption into the surface of the ground."

Range Greater at Sea

Range Greater at Sea

"For a given electric splashing power, or discharging disturbance power, at the sending mast there is a certain range over the sea and over the land at which high receiving masts can pick up the disturbance of the passing waves and make them appreciable to our senses by the aid of a very delicate electric apparatus. The bigger the sending splashing, the higher the masts at both

sending and receiving stations, and the more delicate the electric receiving apparatus, the greater is this range. At present the range extends right across the Atlantic Ocean.

"Wherever a vertical wire is placed in the path of an electric wave an electric disturbance will be created up and down this wire during the passage of this wave, and this disturbance, if strong enough, can act on suitable electric apparatus so as to register a signal. A single wave may pass by a mast in, say, one-millionth of a second, according to the length of the wave. But this brief disturbance suffices. In sending a wireless message every dot and dash involves a succession of waves, or an individual wave train. This train is short for a dot and long for a dash. Dots and dashes, in proper sequence, spell out the message.

Nature of the Wave

Nature of the Wave

“What is the nature of the wave, or of these vertical walls, that we imagine to fly across the landscape at such an enormous speed? If we carried our imaginary aerial automobile into one, so as to travel in the wall and examine it leisurely before it dwindled away to insignificant remains, we should expect to find that in the advancing wave there was a feeble vertical electric force, so that an electrically charged pithball suspended from the aerial automobile would be attracted either vertically upward or downward, according as we examined the positive or negative wall. Moreover, there would be an accompanying feeble horizontal magnetic force, so that a delicately poised compass needle on board our flying car would be deflected either to the right or to the left, according to whether we traveled in the positive or negative wall. Such are the warp and woof of the electro-magnetic fabric which constitutes these waves. They are not issued of matter, but of electricity and of magnetism.

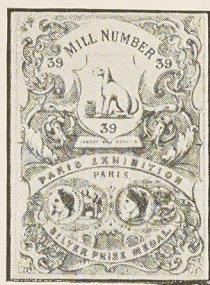
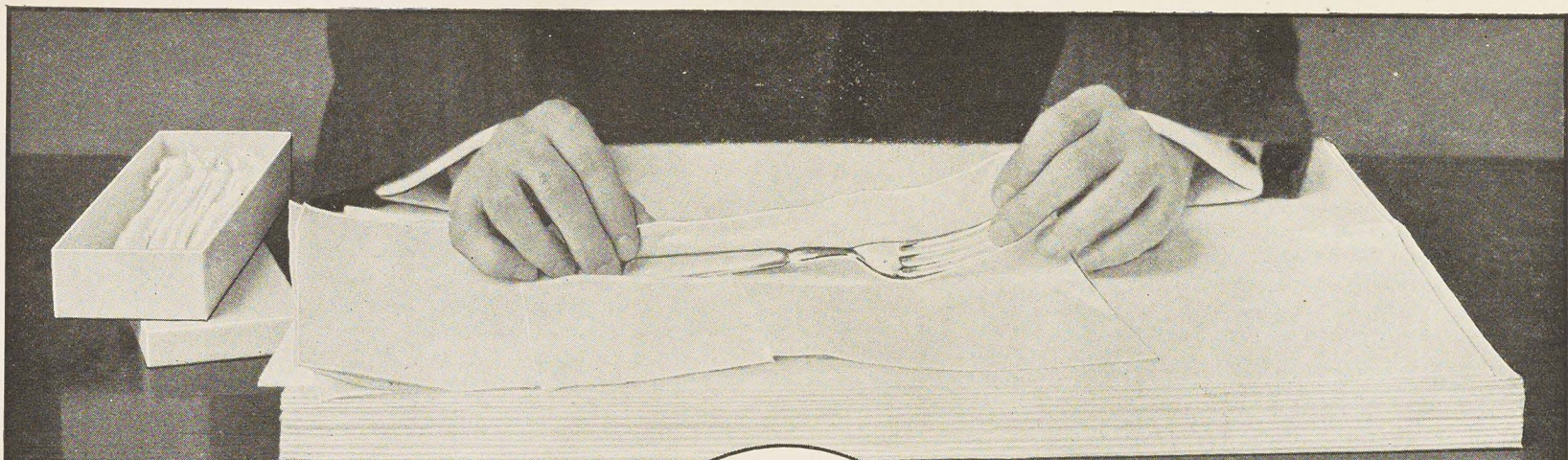
Distinguishing the Waves

Distinguishing the Waves

"And how are we to distinguish at any receiving station between waves coming simultaneously from New York, Boston, Philadelphia, Chicago, San Francisco, London, Paris, Vienna, Bombay and Peking, without invidious disregard of other places and ships at sea? The more remote places take care of themselves at present, because their waves are too feeble and exhausted to reach us. The nearer places might well conflict, but by tuning the apparatus at our receiving mast to respond only to waves say 500 yards long, all waves save those of the particular station or stations which emit that length of wave will not be audible. Besides, there are other modes of securing artificial selection of signals, otherwise a modern tower of Babel would be erected in the circumambient air.

"Manifestly, wireless telegraphy is destined to become a great civilizing and socializing agency, because the firmament of the world is the common property of all nations, and those who use it for signaling inhabit it, in a certain sense. When all nations come to inhabit the firmament collectively they will be brought into closer communion for their mutual advantage. A new upper geography dawns upon us, in which there is no more sea, neither are there any boundaries between the peoples."

Such have been the triumphs of the inventor in recent times that we contemplate with amazement human life on our planet one hundred years hence. What with the wireless telegraph and the airship, now a certainty of the near future, the conditions of life will be entirely revolutionized. We may confidently predict, too, that many other wonderful inventions and discoveries will be made before the world is much older. Humanity contemplates with amazement its own achievements.



Dennison's

"39 MILL" GRASS-BLEACHED

Jewelers' Tissue Paper

For nearly forty years we have supplied the trade of the United States with our "39 Mill" Grass-Bleached Tissue Paper. It has stood all tests and is to-day used largely by the leading jewelers of the country. It is the original Grass-Bleached, Non-Tarnishing Tissue Paper. Its peculiar fibre and uniform manufacture render it the best Grass-Bleached Tissue Paper in the world.

In the circle above we illustrate a facsimile of the label appearing on every package of Dennison's "39 Mill" Tissue Paper, every sheet is water-marked "39 GB Silver Tissue." Furnished in full size sheets, 20 x 30 (folded 15 x 20), or for convenience in wrapping small articles, cut into

$\frac{1}{2}$ s, Size $9\frac{3}{4}$ x $14\frac{1}{2}$ $\frac{1}{4}$ s, Size $7\frac{1}{4}$ x $9\frac{3}{4}$ $\frac{1}{8}$ s, Size $4\frac{7}{8}$ x $7\frac{1}{4}$

We also supply high-grade non-tarnishing Tissue Papers of domestic manufacture, which are backed by the manufacturer's guarantee:

"Dennison's American Grass-Bleached Tissue"

"Dennison's Monarch Grass-Bleached Tissue"

"Dennison's Ribbed Grass-Bleached Tissue"

Dennison's Jewelers' Roll Tissue and Cutters

The Cutters and Roll Tissue illustrated below are furnished with two styles of fixtures adapted for use either on or under counter or wrapping table. The Tissue Paper is our American Grass-Bleached quality.

Dennison's "39 Mill" and all other Silver Tissue Papers, Cutters and Tissue Rolls, are carried in stock at all our stores. For further information address our nearest store.

Dennison Manufacturing Company

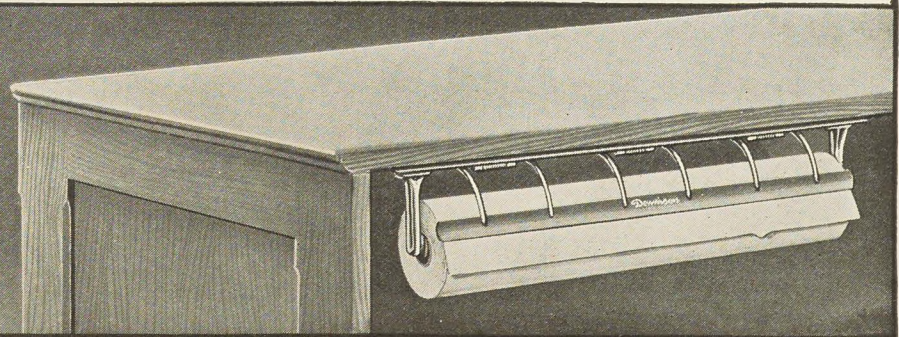
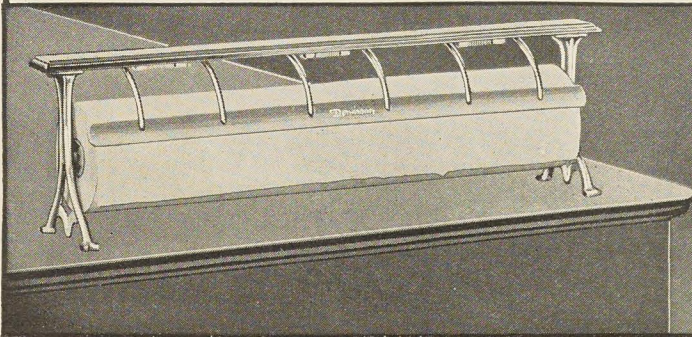
26 Franklin St.
BOSTON

15 John St.
NEW YORK

1007 Chestnut St.
PHILADELPHIA

128 Franklin St.
CHICAGO

413 North 4th St.
ST. LOUIS



Summer Advertising

It is the practice of many jewelers to advertise only in the busiest periods of the trade year—at Christmas, Easter, the county fair week, the time of weddings, and on such other distinct occasions. Their theory is that the time to advertise is when the public is eager to buy; and as only a certain sum can be appropriated to advertising, it is wasteful to spend part of it through the sleepy summer and wise to concentrate it on Christmas and special occasions.

It is a mistake in theory and practice.

When to Advertise

The time to advertise is ALL the time. The wise merchant keeps himself before the people every week in the year. There is sound reason for his doing so.

In the first place, it is untrue that "everybody is out of town" throughout the summer. The saying is simply a figure of speech. *Less than one-tenth of one per cent.* of the people of any community spend the three months of summer away from home—statistics prove it. Less than one per cent. go away for as long as two weeks—statistics prove it. And all of these are not away at the same time.

Certain exclusive stores in the large cities which cater to the wealthy class are unquestionably affected by the hegira to the shore, the mountains and Europe; but their number is so small in the total of jewelers that they do not affect the question. The majority of *your* customers are the home-staying class, who need goods and repairs in your line all the time. It follows that you must keep them informed about your goods and your prices. And if you have two grains of wit you can stimulate sales right through the hot weather, by offerings of special things at special prices.

In the second place, the advertiser should always look to *cumulative* results—the piling-up of all his efforts into an *increasing* success. Sporadic advertising—the kind that is done only on special occasions—has no *permanent* effect upon the volume of the merchant's trade. It is the *continual* hammering away that counts. The jeweler who stops advertising for three months throws away all the accrued value of his previous expenditure for advertising, and "must begin all over again" in focusing attention to his store. There should never be a let-up at all.

How to Advertise

We concede, of course, that the sum expended for summer advertising should be less in proportion than that expended in the same period before and during the Christmas season. The total appropriation for

the year must be judiciously distributed so as to bring the heaviest outlay on the seasons of greatest trade activity—while neglecting *no* period of the year. It follows, therefore, that the persistent advertising in the summer months must be *in small spaces* in the newspapers.

But small space is no excuse for careless work in filling it. In fact, it is more important that the *little* advertisement be thoroughly pleasing and effective than the big; for in the little one every word counts, since there are so few of them. The utmost painstaking should go into the preparation of the small advertisement. *It should be changed* with every issue of the newspaper. The most should be made of the space by the right kind of "display" to attract the eye to it. There is really greater skill required to prepare a perfect advertisement in an inch space than for a full page; more art in filling three inches than three columns. Success in effective condensation, miniature painting, is rarer than successful speech or color in broadsides.

If you have decided on, say, three inches single column for your summer space, you can occasionally make an effective variation in your use of that space by breaking it up into, say, twelve two-line "runners" to appear here and there in one issue of the paper. Many country newspapers are willing thus to gratify an advertiser's whim—metropolitan dailies are not always as amiably disposed. These little single-sentence advertisements would say:

"Have you seen those cunning Silver Trinkets at SMITH'S?"

or

"SMITH'S Watch Repairing is the best in this town."

or similar catch lines.

What to Advertise

You will say, "Why, the things I have to sell, of course." There is no dispute over your answer to the question if you will add, "But only *one* thing at a time; and thus *all* the things, *in time*."

Whatever may be said as to the advantages of advertising your many and various lines in the large space which you will take at the Christmas season, there can be only one sane opinion as to the absurdity of crowding the mention of these various lines into the small space in summer advertising. *Mention only one line, or one item*, in each small advertisement occupying less than three inches single column, and you will thus get the best returns from the space. Be a specialist in one thing for that one time. Don't generalize; be specific. Instead of *mentioning a line* of rings, describe *one* ring; the girl who wants a seal ring will take it for granted that you have them because of your snappy description of a certain stone ring. You must concede something to the average intelligence. Because you are a jeweler the public will know that you likely sell *all* the things in the jeweler's

line, so that you need not *catalogue* these various lines in your little space. If a man wants his watch repaired, you need have no fear that he will take it to a meat shop or a hat store, if your advertisement cleverly describes a walnut clock and makes no mention of repairing. The woman bent on buying a silverplated coffee-pot will visit the jeweler who advertises a dainty watch—because she knows that these lines "go together." It is as needless to advertise *all* you sell, at one time, as to inform the public that you, the jeweler, do *not* sell sauer-kraut, silk, sausage, shoe-strings and soda water. Advertisers too often assume that the public knows nothing at all. Alas, it often knows *too much*—for the advertiser!

Take an Inventory of Your Faculties

You take, or *should* take, an inventory of your stock at regular intervals. In such inventories the stock passes in review before your eyes and you can see in what lines you are overstocked or insufficiently stocked, what goods sell freely and what are slow; and thus are informed so as to be able to proceed intelligently and successfully in the future.

Wouldn't it be a good idea to take an account of your kinds of stock other than the material kind? your faculties, your ideas and ideals? They cannot be handled, nor checked on an inventory, nor counted like the debits in a ledger; they are vague and intangible. Because of their intangibility it may be difficult to locate the various items which go to make up your business character; it may be difficult to get outside of yourself and look yourself squarely in the eye; but it will pay to try.

As a basis for your self-examination, look over this list of the *chief causes of failures among business men*. Use it as an index for your inventory; and if you have to answer "Guilty" to any of them, get busy. Throw out the bad stock; furbish up that which is dull and tarnished; get new habits of those in which you are now "short"; and buckle down to serious business hereafter.

Insufficient preparation.
Wasting effort on illegitimate methods.
Lack of the power of practical adaptation.
Improper training.
Living beyond your income.
Entering into outside operations.
Want of will.
Lack of fixed purpose and perseverance.
Overtrading.
Bad judgment in giving credit.
Failure to make cash discount.
Ignorance of the power of good advertising.
Trickiness and oversmartness.
Finding it easier to float than to row.
Waiting for opportunities.
Lack of attention to details.
Drifting forward and back with the tide.
Laziness.
Too many irons in the fire.
Ignoring the principles of right living.
Haste to get rich.
Doubting too much, or too little.
Unwillingness to begin at the foot.
Too little self-conceit or too much.
Mistake in choice of employment.
Want of resolution.
Want of faith in the inevitable triumph of the truth.



ONE-QUARTER TURN
FILLS OR EMPTIES THE
FABER

Dr. Faber Self-Filling Fountain Pen

You want a Fountain Pen that will retail at a reasonable price, make you a good profit, give satisfaction to the user and increase your Fountain Pen trade.

Four years' experience has proven all this to those dealers that have been handling the **Dr. Faber Self-Filling Fountain Pen**. The reasons are:—

My pen retails at a price to fit any pocket-book and all are guaranteed even to give satisfaction. Prices range

No. 1, \$1.50; No. 2, \$2.00; No. 3, \$2.50; No. 4, \$3.50
No. 5, \$4.50; No. 6, \$5.00 and up.

My proposition to you Mr. Dealer is this:—

Make up any order for one dozen or more at the above mentioned prices, deduct 40% for your clear profit then take 10% to use to advertise the pens. In addition to the 10% to be used for advertising, I will send you the order with the pens, labels, directions, small individual boxes, SHOW CASE, celluloid window signs and other advertising material.

Analyze the exceedingly low retail price of a high-grade Self-filling Fountain Pen on which you realize a profit of 80% and at the same time build up a trade that will grow to a great business. Thousands of dealers are now singing the praises of the Dr. Faber Self-filling Fountain Pen. Pen users all over the United States are asking what dealers are handling the Dr. Faber Pen in their locality, showing that our extensive magazine advertisements have created a demand for the Dr. Faber Pen every place.

Send for a sample order or write for one of our beautiful catalogs and I will demonstrate to you that this is the pen you have been looking for and on which you can build a good pen business.

DR. FABER SELF-FILLING PEN CO., Toledo, Ohio

Also let me figure on your
**Fixtures
Show
Cases
Trays
Etc.**

THE LATEST CRAZE The New "RED MIDGET" Stylographic Pen



Has solid gold spring and needle and platinum points.
Writes like pencil. **RETAILS, \$1.00 to \$2.00 each.**
Every RED MIDGET guaranteed perfect and best style made.



The latest Vest Pocket or Ladies' Non-Leakable Pen can be carried in any position in pocket or purse. Will not leak. **RETAILS \$2.00 and \$2.50 each.**
Made in long or short sizes. Write for **SAMPLES and CATALOG.**

WRIGHT PEN CO.

Wm. Weldlich & Bro. Prop.

623 Washington Ave., ST. LOUIS, MO.

A Year 'Round Seller

The Conklin Pen is the best all year 'round seller because it is built for every day use. It's the most practical and convenient—meets every easy writing requirement—dependable—durable—a time saver, as it does away with the bother and annoyance so common with other fountain pens. Will give satisfaction year in and year out. Filled in the twinkling of an eye by simply dipping in the nearest ink-well and pressing Crescent-Filler.

CONKLIN'S Self-Filling Fountain Pen

—combining as it does the superior advantages of other fountain pens, plus the most successful filling principle, and backed by our extensive advertising, is the pen for you to handle. Write at once for our new catalogue and dealer's proposition.

THE CONKLIN PEN MFG. CO.
39 Manhattan Building
TOLEDO, OHIO
U. S. A.

NEW YORK
DENVER
OAKLAND
WINNIPEG
LONDON

The Crescent-Filler

Drinks Ink Like A Camel

The Crescent-Filler

Jewelers the World Over Endorse The Keystone Record Book of Watch Repairs



Roland Abrahams, a jeweler, of Kingston, Jamaica, says:

I am quite satisfied with The Keystone Watch Repair Record Book. It is really good, cheap and useful, and must be appreciated by anyone who has a need for such a book. I think it a marvel of cheapness.

This is the universal opinion—the same in the United States and foreign countries.

This Record Book has space for 1600 entries of watch repairs with printed headings, and making complete records is the work of a moment.

Sent postpaid to any part of the world on receipt of price, **\$1.00 (4s. 2d.)**

Published by **THE KEYSTONE PUBLISHING CO.**

809-811-813 North 19th Street, PHILADELPHIA, PA.

THE "CLEAN-TO-HANDLE" FOUNTAIN PEN

Moore's Non-Leakable Fountain Pen

Retails from \$2.50 up



THE FOLLOWING CLAIMS WE GUARANTEE:

1. That the pen is filled without unscrewing the section, thus avoiding soiling the fingers with ink when filling.
2. That the pen is drawn back into the barrel or reservoir after using, and when the cap is turned on is absolutely AIR and INK tight.
3. That it can be carried in any position in any pocket and cannot leak.
4. That the pen is always ready to write the instant it touches the paper.

Sectional View of Pen Closed for Carrying



These pens, being constructed upon entirely different principles from other fountain pens are, without doubt, the nearest perfection of any pens manufactured.

5. That the barrel being AIR-TIGHT, the ink never thickens or dries up, and if the pen is not used for a year, it writes just as readily.
6. That we have the ONLY desirable fountain pen IN THE MARKET for LADIES' USE.
7. That our "Tourist" or Military Pen is the best pen made for travelers or military use.
8. That we use nothing but the highest grade gold pens.
9. That we use pure gum rubber, and the superior finish and lustre of our holders is very noticeable when compared with others made from common stock.

American Fountain Pen Co.
Boston, Mass.

A. A. WEEKS-HOSKINS CO. (Special Selling Agents for Greater New York,
11 Gold St., New York (Philadelphia, New Jersey, Baltimore and Washington



Wedding and Commencement Stationery

An Effective Display

The month of June furnishes many opportunities for the stationer. In the first place, there is the engraving of wedding and commencement stationery, a fruitful source of revenue and large profits. There is also the beginning of the summer exodus of pleasure seekers, who, as a rule, provide themselves in advance with a supply of stationery. These factors in June trade can be used to advantage in window displays and also in newspaper advertising. In the window display department of this issue we suggested the use of figures as central features of displays, and this recalls an admirable stationery trim made use of by a jeweler in one of the Eastern States. The central feature of this display was a lady seated at a desk addressing invitations to wedding guests. Wedding stationery was, of course, the motif of the trim. Invitations *a la mode* were strewn around, and a central card showed an enlarged facsimile of the form of wording and engraving most approved by fashion. The desk at which the lady was seated offered an opportunity for an effective display of such correspondence paraphernalia as fountain pens, inkstands, pen-wipers and desk appurtenances generally. The picture was a very bright and appealing one, and attracted much attention. It also, we understand, resulted in considerable trade. Many modifications of this idea will suggest themselves.

Selling by Sample

The practice of selling by sample is now largely made use of in the sale of stationery. An excellent idea in this line is used by a leading paper house. This house makes up each year several styles of block calendars. As the person using one of these calendars removes the leaves each day, he is occasionally confronted with a page of blank paper instead of the usual calendar leaf. A single line on this piece of paper reads, "Try your pen on this." The probabilities are that in every case the user of the calendar will act on the suggestion, and, if the paper appeals to him, he will naturally have it in mind when making his next purchase. There is nothing, after all, so impressive as an actual demonstration, and only through the medium of a sample can the public be assured

that the representations made by the stationer are thoroughly reliable.

Intelligent Handling

One of the drawbacks in the jewelry store where stationery is handled is that, as a rule such stock is regarded as of secondary importance and given correspondingly little attention. In

Mrs. Dennison Briggs
request the honor of your presence at the
marriage reception of her

daughter

Rosamond

and

Mr. William Bancroft
on the evening of Wednesday, May the tenth
one thousand nine hundred and nine
at half after eight

o'clock

Palais d'Royale

Paris

Wedding reception invitation (reduced)

many instances there is no one in the store who thoroughly understands the stationery business or is posted sufficiently on the qualities of paper, fashion, etc. The addition of the stationery department should imply the training of one or more workers espe-

The Faculty
and the Graduating Class
of the
Hahnemann Medical College
of New London

request the honor of your presence at the

Commencement Exercises

Academy of Music

Tuesday, May fifth, nineteen hundred

and eight at seven

o'clock

Commencement invitation (reduced)

cially in this branch. Of course, any member of the force can sell stationery, but a great advantage rests with one who has made a study of this particular business and thoroughly understands the goods. The fountain pen manufacturers have been wise in this direction. They have seen to it that those who purchased a supply of pens have

trained men to sell them, and this accounts in a large measure for the large sales of these goods and their increased popularity. Any ambitious clerk will only be too glad to make a special study of the stationery business, as he will naturally conclude that this will make his services much more valuable.

Many jeweler-stationers are remiss in the matter of displaying their stationery stock in the window. While, of course, they cannot afford many or frequent displays of this character, it would be well to devote the window occasionally to a display of stationery goods alone. Through the medium of such a display many of the public would learn for the first time that the jeweler is engaged in this line of business.

Importance of Business Stationery

There has been a decided improvement of business stationery within the past few years, and there's room for much more. Whoever has to do with correspondence, bills, statements, and the like, realizes that in the daily mass received the attractive proportion is small.

It is quite evident that the majority of business men are not yet awake to the fact that business stationery may be utilized for advertising, and that such advertising pays a very large dividend. The difference in cost between poor and good stationery is inconsiderable compared with the benefits derived from the use of good stationery.

Three things are absolutely necessary: Good paper, good printing, good typewriting.

Good printing involves good design, and a good design involves good copy. There should be as few words as possible on the letterhead. The name of the concern, its location and its business. There should be, usually, nothing else. The letterhead is no place for a price list or advertising argument. Whether an illustration of the factory or of the product should be used must be a matter to be considered. The design, whether for lithography, half-tone, or typography, should be carefully made, having always in mind that it has nothing to compete with. It has the whole stage, and the undivided attention of the reader. It should be attractive, first of all.

A business man going over his mail does not consciously study the letterheads which pass before his eye and through his hands. He is influenced incidentally. The "feel" of the paper, the character of the printing, the form and balance and color of the typewritten matter—these are the elements of a business letter which put the reader in a humor to deal favorably with its subject-matter.

BATES & BACON

New York
9 Maiden Lane

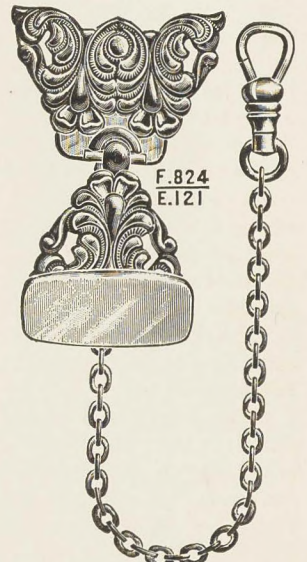
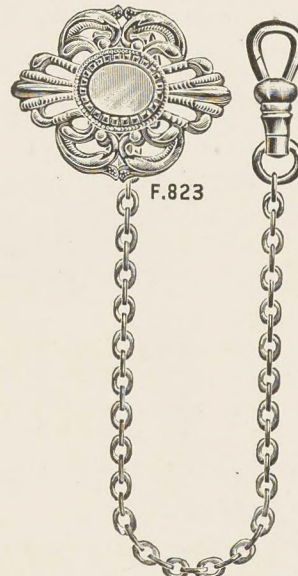
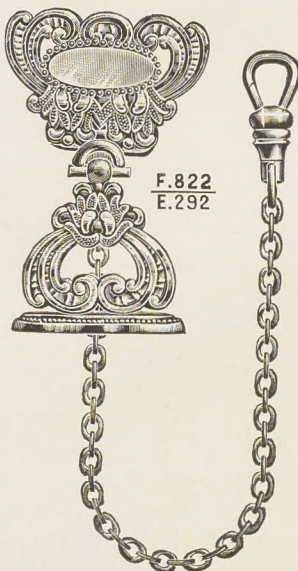
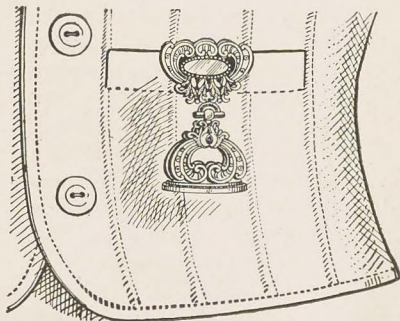
Attleboro, Mass.

Chicago
103 State Street

The Leading House for High-Grade Gold Filled CHAINS, LOCKETS
AND BRACELETS

Something NEW! Fobettes!

For Ladies' Belts
Gents' Vests
or Trousers



New Home of "Rings of Quality"



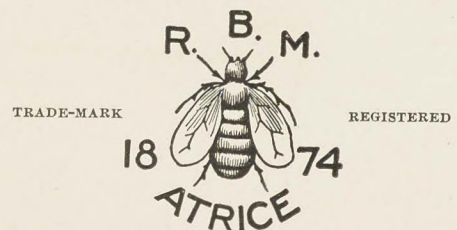
"Our New Business Home"

Niagara Ring Mfg. Co. 534 Main Street
BUFFALO, N. Y.

Compelled by increased trade to find larger quarters, we have just moved our factory and offices into our new building at 534 Main Street, Buffalo, N. Y., the best location in the city for our purpose.

Here we have 11,000 square feet of space, all North light, an increased equipment and every facility for producing the "RINGS OF QUALITY" in sufficient volume to equal the rapidly-growing demand. It is significant that even now our producing facilities are taxed to the utmost. Our present product comprises over 3000 original designs in 10 karat solid gold. Enliven your spring stock by selections from this line.

THE MARK OF QUALITY



ANY ARTICLE BEARING OUR MARK
IS ABSOLUTELY GUARANTEED
TRY US ONCE AND SEE

OUR PATD. JOINT
HARDNESS OF STOCK
FINISH AND
DESIGN

ARE THINGS THAT HAVE MADE
THE

BEATRICE LOCKETS & CUFF PINS

FAMOUS

R. B. MACDONALD & CO. MFG. JEWELERS

BOX 322

ATTLEBORO, MASS.

The Government Assay Office and Its Work

In the smelting of ores, or in the other processes for winning the gold and silver from nature's products, these two metals are always obtained in a combined condition, and no attempt is made to separate them. At the smelter or mine the only operation that is put upon the two metals is to remove as completely as circumstances will permit the base metals that are present with the gold and silver. In usual practice they are removed only to bring up the fineness of the bullion above 500. The periodical "clean-up" of a mine or smelter is treated so that the gold and silver in the bullion are at least over this degree of fineness and it is shipped to a refinery, usually that of the government, for complete purification. It would not pay a smelter to refine his own bullion unless he had large quantities of silver. That containing gold in excess can be sold to the government at the full price for the contained gold, even though it be impure. There is no object, therefore, in carrying out a complete purification.

The material produced in the "clean-up" of a mine is called *base bullion*, as it consists largely of silver alloyed with base metals. A large quantity of gold, in addition to silver, is present, and is called *doré-bar*. This is purified so that the fineness in gold and silver is over 500. If below this the government will not refine it, and, therefore, partial purification is resorted to in order to raise it over this amount.

As the base bullion obtained from the "clean-up" of a mine or from the result of smelting operations contains both gold and silver, it is necessary to separate them before either can be used commercially. This separation is called *parting*.

The parting of gold and silver was first carried out by means of nitric acid. For many years this was the only process known, and was extensively used all over the world for this purpose. It is still used in small establishments, but the cost is so much in excess of the sulphuric acid process or of electrolytic refining that it has practically fallen into disuse. As a process for making pure gold, however, it is preferable to the other processes. In the sulphuric acid process some impurities are left in the gold, but as they are soluble in nitric acid, the employment of the nitric acid method eliminates them and produces a pure metal. In some small establishments which refine jewelers' sweeps, the nitric acid parting method is still used.

Sulphuric Acid Process

The sulphuric acid parting process was invented by Andrew Mason, for many years superintendent of the United States Assay Office, on Wall Street, New York City. He brought out the process in 1866, and as sulphuric acid is much cheaper than nitric acid, a great saving was effected for the government. This

process has been in use at that institution continuously since that time, and all bullion received has been treated by it. Within a short time, however, owing to a portion of the building having been torn down for repairs, the parting department of the assay office has been discontinued for the present, and all refining is now carried on at the mint, in Philadelphia, by the electrolytic method. As it is questionable when the assay office will be repaired, the resumption of the parting operations by the sulphuric acid process is more or less uncertain. It is possible that the electrolytic process may supersede it, and if the trial that is now being made at the mint demonstrates that it is cheaper, then it will replace the sulphuric acid method.

As far as can be ascertained, however, it is yet uncertain whether the electrolytic process is preferable to that of parting by sulphuric acid. Each has its advantages. Continuously from 1866

paid. It is then shipped to the Philadelphia Mint for refining.

While the government will purchase outright all gold that is offered, it will not purchase silver unless authorized by congress. At certain times silver is purchased for coinage, but stipulated quantities only are authorized. Silver will, however, be refined for anyone at a nominal cost. If, therefore, impure silver is deposited at the assay office for refining, the silver which is actually in it is returned to the depositor and he is obliged to pay for the cost of refining. With gold, however, the government will either purchase it or refine it in the same manner as silver. To the depositor, however, the result is the same in either case.

The government will not accept material below 500 fine, and all base bullion must be over this amount in order to be accepted. When

deposited, a certificate of deposit is issued and the metal sent to the melting room, where it is melted in a graphite crucible in a furnace heated with anthracite coal. When thoroughly melted a thorough stirring is given it and then, by means of a small clay crucible grasped in a pair of tongs, a small quantity of the molten metal is removed. This is at once poured into water to granulate or "shot" it. The *dip sample* thus obtained is assayed for gold and silver and settlement made with the depositor upon this basis. It has been thoroughly demonstrated that a dip sample is the only satisfactory method for the assay. If borings are taken from a bar, no matter how the operation may be done, the result is apt to be more

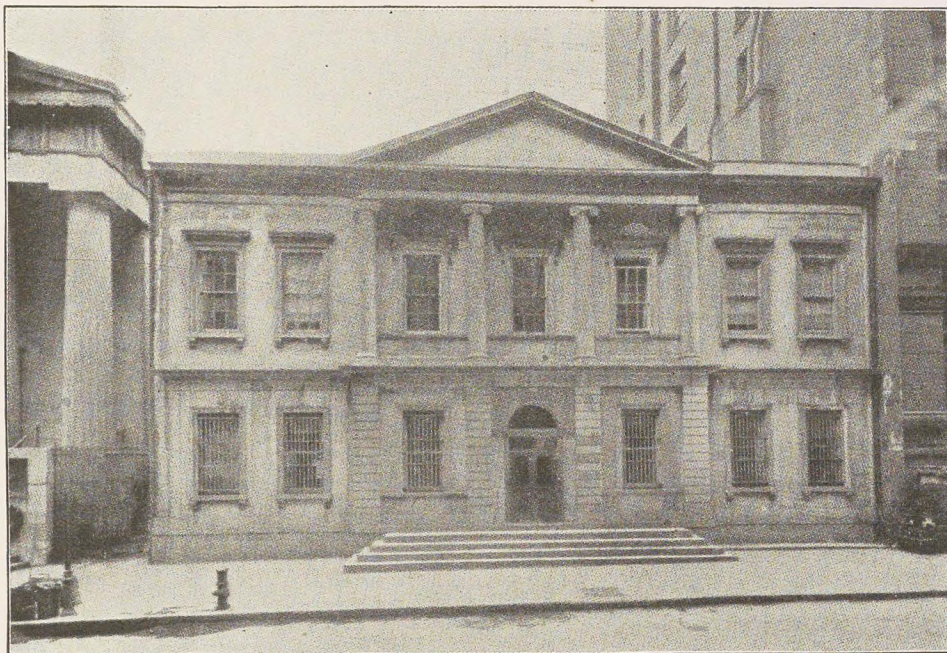
or less than the true amount. The impurities segregate from the gold and silver and the gold may be richer in one portion than another. By taking a sample of the molten metal, however, and rapidly cooling it in water, a perfectly uniform material is obtained. The use of dip samples upon which to base the value of base bullion is now universally carried out, not only in the government institutions but in private ones as well.

It is an error to presume that a depositor of silver bullion obtains the same silver in the refined condition that was in his deposit. As soon as the assay of the deposit has been made and its value determined, no attempt is made to preserve single lots, but are mixed for subsequent parting.

The parting and refining operations may be divided into the following steps:

1. Melting the base bullion and taking a dip sample.
2. Assaying to determine its value.
3. Inquartation (adding silver so that the silver and gold may be separated) and granulating.
4. Treatment with sulphuric acid to dissolve the silver.
5. Washing the gold residue thus obtained.
6. Precipitating the silver in the sulphuric acid solution by copper.
7. Crystallizing the sulphate of copper.

—The Brass World.



United States government assay office, New York City

to the year 1907 the sulphuric acid parting process was used at the assay office in New York City, and practically all of the gold used by the government for coinage and other purposes was there refined. The process was brought to the present state of perfection by its inventor, Mr. Mason, the former superintendent of the establishment. The description of the process subsequently described is the method used at that establishment.

The Government Assay Office

The so-called assay office of the government is situated at 30 Wall Street, New York City, in the very heart of the financial district and next to the sub-treasury. Nearly opposite the assay office is the office of J. Pierpont Morgan. Near by is the Stock Exchange. It has always been a matter of surprise that the government could afford to maintain a manufacturing establishment of this nature in such a locality. When one considers what has actually been carried on in it, it will readily be appreciated that the assay office is nothing more or less than a manufacturing establishment where smelting and refining is carried on. It is probable, however, that at some future time all refining may be permanently discontinued, as it is now temporarily. At the present time bullion is received at the assay office, its value determined by assay and the depositor

CLOCK HISTORY FOR CLOCK COLLECTORS

The Earliest Clocks—Old English, French and American Timepieces—Famous Early Clockmakers in Europe and America

A valuable accomplishment for every jeweler is a knowledge of clock history. For all manner of information in regard to clocks, ancient and modern, the public are wont to consult the jeweler, naturally supposing that he is deeply versed in clock lore. Seldom have we perused a more interesting or useful epitome of clock history than the following, by Walter A. Dyer, in *Country Life in America*, Mr. Dyer's story being especially intended for clock collectors and such as are especially interested in old and unique specimens:

While the study of various works and movements in the clocks of different periods is interesting and instructive, from the collector's point of view the case and general design are the thing. A very high grade of craftsmanship is exhibited by several of the styles in old clocks—a source of never-ending delight to the connoisseur. It is this side of the subject, therefore, that I shall consider in the present article. A fairly large proportion of the clocks which were used in this country a hundred years or more ago were of British manufacture, and though few of those now found date back as far as the seventeenth century, it seems best to take as a starting point the English chamber clocks of that period. These were among the first that came into common domestic use.

Bird-Cage or Lantern Clocks

The most numerous and noteworthy type was what is known as the bird-cage, lantern or bed-post clocks. These clocks were introduced about 1600. They were made about fifteen inches high at first and about five inches square; smaller ones were made later. They were mostly of brass. They were placed upon brackets, through which hung the weights and chains or ropes by which they were wound.

The faces of these clocks were round and the center of the dial was often beautifully etched. The dial was about six inches in diameter, projecting slightly beyond the frame at the sides. In the earliest of these clocks the dials were, as a rule, thickly gilded.

There was only one hand at first, the hour spaces being divided into fifths. During the last quarter of the seventeenth century bird-cage clocks with two hands were made.

On the top was a bell, giving the clock a domed appearance. Sometimes this was for an alarm and sometimes to strike the hours; occasionally it was put to both uses. The works were of brass and usually of good quality; they were made to run from twelve to thirty hours—usually twenty-four hours. At first a simple balance was used, but was superseded by the short or bob pendulum about the middle of the century. This was first introduced in 1641, and came into general use about 1658 or 1660, when it was improved. The long or royal pendulum is supposed to have been invented by Richard Harris in 1641, but it was not used for these chamber clocks until 1680.

A prominent feature of these bird-cage clocks is the ornamental fretwork around the top, which partially conceals the bell. The earliest fret was

heraldic in style, and was used, with gradual changes, from 1600 to 1650.

With slight changes, this style of clock was made from the time of Queen Elizabeth (1558-1603) until the beginning of the reign of George III (1760). Some of the later ones are still to be found in this country. Once in a while a Dutch imitation is found, but they are rare.

During the reign of Queen Anne (1702-1714) a similar clock, called the sheephead clock, was made, with the dial projecting two or three inches beyond the frame on each side.

The Grandfather Clock

In the meantime the long case eight-day type known as the grandfather clock had been developing in England. Toward the close of the reign of Charles II (1685) some of the clockmakers fitted wooden hoods over the brass works of the lantern clock, for protection; then someone conceived the idea of making a case for the pendulum also, and the tall clock was evolved and stood upon the floor. Long-case clocks were made by Tompion during the latter part of the seventeenth century, but the earliest ones on record were made by William Clement, in London, about 1680.

The general size and shape of the grandfather clock is familiar to everyone. At first they were small, with small dials, and with no doors, so that the hood had to be removed when the clock was wound. Sometimes at first the cases were narrow-waisted, with wings at the sides where the pendulum swung. Later the cases became straight and tall—sometimes ten feet or more. The pendulums were sometimes seven feet long.

The earliest cases were plain, with square tops. Later the top was ornamented. Three balls, or other ornament, the middle one highest, are a common feature of eighteenth century examples, as is also the scroll top. An early form of ornament was the spiral or corkscrew pillars on the corners of the upper part. These came in as early as 1700, and were very popular in Queen Anne's time. Very plain cases were often made during later periods by local cabinetmakers, both in England and America, so that it is not always possible to determine the age of a tall clock by the amount of ornament on the case.

As to the materials of which the cases of the English tall clocks were made, oak was used from the beginning and was never discontinued, but is rarely found in connection with the best work. Walnut cases, both plain and inlaid, were made extensively during the last quarter of the seventeenth century and the first quarter of the eighteenth. Some of the early cases were made in soft woods lacquered in Oriental fashion and usually decorated on the front with Japanese designs in gold on black. Clocks of this type, dating from 1740 on, are to be found in this country. Marquetry work is to be found on some of the very early tall clock cases, chiefly of the Dutch type, but including also English work in Italian patterns. During the reign of William of Orange (1689-1702), Dutch marquetry was at its height, clock cases being inlaid with satinwood, holly, ebony and other woods.

Works and Dials

The early tall clocks had square metal dials. Early in the eighteenth century the square top gave place to the arch. Later, moving figures appeared sometimes in this arch—chiefly moons, showing the changing phases. During the later years of the eighteenth century various moving figures came into fashion, such as

a ship rocking on the waves. Sometimes calendars were placed in the arch or in the dial, just under the center. On the dials of many seventeenth century clocks the maker's name appears in the circle at the lower edge; later it was placed within the circle just above the figure VI.

At first the dials were plain, but soon became a field for ornament. The brass and silvered faces of the reigns of William III and Anne were very richly ornamented. Later painted faces came into vogue, though these were not as common on English as on American clocks.

There were no minute hands on the first tall clocks, the hour spaces being divided into halves and quarters. Concentric minute hands soon became common, though one-handed clocks were made for some time.

As a rule these tall English clocks were good timekeepers, running usually for eight days. Both wooden and brass works were used, the latter being most commonly found in existing specimens. Old wooden works can hardly be depended upon to keep good time to-day. Some of the clocks had strikers, and a few of the more expensive ones were equipped with chimes or played tunes.

There are in existence a few miniature clocks of this period, built on exactly the same lines as the tall clocks, but only three or four feet high.

English Bracket Clocks

Another form of English clock, also a development of the early chamber clock, is the bracket or pedestal clock of the eighteenth century. During the latter part of the seventeenth century these clocks began to appear, with squat, square cases of wood, perforated metal tops, generally chased and gilded and surmounted by a dome with a brass handle on top. The dials were made square or with an arched top. They were usually of brass, with the circle silvered, and Roman numerals were used. Gilded spandrels of the period were sometimes placed in the corners of the dial and the space about the circle of the dial was often beautifully ornamented. A few of the later clocks of this type were supplied with chimes, and cost the equivalent of \$600 or \$700. These are so rare to-day as to be very valuable.

Walnut, oak and other woods were used in the cases; during the latter half of the century mahogany was the most popular. A few were made of ebony and ebonized wood, and even tortoise-shell veneer. Inlaid cases after the style of Sheraton date from 1790 to 1800.

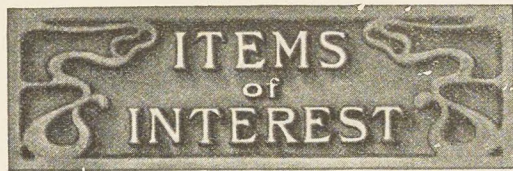
Toward the end of the century the popularity of the bell or dome shape waned and we find the broken arch, the balloon shape and the lancet or pointed Norman arch.

French Clocks

Now as to French clocks, many of which found their way to this country. Clocks of good quality were made in France in the seventeenth and eighteenth centuries. They were mostly portable clocks in a variety of forms, following the styles of the period.

Mantel clocks before the time of Louis XV (1715-1774) are exceptional. They were usually supported by a pedestal, a long case or a bracket. Sometimes they were hung upon the wall. The hanging or "Cartel" clocks of the Louis XV period were usually of metal, thickly gilt and graceful in form. Another clock of this period was the drawing-room clock, richly chased and elaborately ornamented in the riotous rococo of

(Continued on page 1018)



August H. Hoffman, formerly secretary and treasurer of the Hall Co. and manager of the Lempert Mfg. Co., has organized a company known as Hoffman Jewelry Case Co., for the manufacture of trays and cases in Denver, Colo.

W. W. Oliver, of the W. W. Oliver Co., Buffalo, N. Y., accompanied by Mrs. Oliver, returned some weeks ago from an extended pleasure trip, in the course of which they visited Washington, Philadelphia, Richmond, Old Point Comfort and Norfolk.

Wayne Cut Glass Co., Honesdale, Pa., are erecting a new plant, which they expect to have completed in a few months. The building is 135 feet long and three stories high and is of concrete and brick construction. It will have a capacity of two hundred frames, and will add materially to the productive facilities of the company.

J. Glick, of Stockton, Cal., who had been in ill health for several years and confined to his bed for some months, now anticipates complete and early recovery, as the doctors have at last located the cause of the trouble, which, we understand, a minor operation will set right. The many friends of this popular jeweler will be pleased to learn of his good fortune.

J. Van Dusen, of Van Dusen & Stokes Co., dealers in Oriental jewelry and art goods Philadelphia, will sail from San Francisco on June 9th on a six months' trip, which will circle the world. He will visit Japan, China, India, Egypt, Turkey, Germany, France and England, searching the markets in all these countries for novelties in jewelry and art goods for his firm.

The co-partnership in the firm of J. Hoare & Co., cut glass manufacturers, Corning, N. Y., was recently dissolved and a new corporation organized under the title of J. Hoare and Company, which has taken over the entire assets and assumed all the obligations of the old firm. The business will be carried on at the same location as heretofore. The officers are as follows: President, James Hoare; vice-president and secretary, Geo. L. Abbott, and treasurer, Hasell W. Baldwin.

E. Howard Watch Co., Waltham, Mass., have recently issued a most valuable booklet, entitled "Selling a Watch," which contains a wealth of practical information for the watch dealer. "Selling a Watch" is a most interesting story and contains many valuable hints on making profitable sales. The booklet is sent free to the trade on request, as is also an imposing folder, which gives briefly a history of the Howard watch and its distinctive characteristics, together with illustrations showing the Howard plant at Waltham, Mass.

Burnham & Emery, Springfield, Ohio, would be pleased to learn whether any of their brother jewelers have encountered a stolen watch which he describes as follows: Old model Howard movement, 18 size stem wind, movement No. 42,998. The case, hunting, solid gold, No. 33,839, and worn smooth. The letters "D. McM." were engraved on the outside of the front lid, and a distinctive feature of the case was that it was very large and heavy, much larger than an 18-size case of the present day. A reward will be offered for information leading to the recovery of this watch.

Walter H. Bradley, president of the J. B. Bergen Co., Meriden, Conn., recently secured the services of Thos. Singleton, of Bowling Green, Ohio, as general manager of the company. Mr. Singleton is one of the most accomplished men in the cut glass line, with which he has been connected for many years. His latest connection was with Pitkin & Brooks. On the occasion of Mr. Singleton's departure from Bowling Green, the citizens presented him with a valuable gift in token of their high regard for himself and his family, and he was accorded the honor of being escorted to the depot by a committee of citizens and friends. He is also well and favorably

known in Meriden, where he will make his future home.

Brock & Feagans, Los Angeles, Cal., who take special pride in the stationery branch of their business, for which the firm has already built up a high reputation, added considerably to their laurels in the production of the stationery used on the occasion of the visit of the battleship fleet to Santa Barbara. This firm furnished the stationery for the several functions held on that occasion in honor of the fleet and its officers, and no prettier souvenir of the occasion could be had than the handsome invitations. The lettering on the formal stationery was embossed in white, a little panel at the head of the invitation being inlaid with mother-of-pearl and showing a beautiful sea scene with a battleship. The stationery was much admired, many of the officers remarking that it excelled anything of the kind they had ever seen on their extensive journeyings.

West Virginia Retail Jewelers' Association

The West Virginia Retail Jewelers' Association met recently in Clarksburg and elected the following officers: President, T. A. Westmyer, Wheeling; first vice-president, C. A. Wernecke, St. Mary's; second vice-president, S. F. Robinson, Clarksburg; secretary and treasurer, Chas. E. Baab, Parkersburg. Executive committee: C. A. Keefer, Grafton; J. L. Jones, Martinsburg; Henry Milliken, Wellsburg; J. H. Grub, Thurmond, and M. Wittenderpher, Williamson. Membership committee: J. F. Krohne, Clarksburg; Henry Milliken, Wellsburg, and J. W. Berisford, Piedmont. Committee on qualities: Lee Probst, Clarksburg; A. C. Duerr, New Martinsville, and G. C. Burrell, Weston. Committee on trade interests and legislation: President T. A. Westmyer and Secretary Chas. E. Baab.

The association now has a membership of fifty-four, and twenty-five of these were present. All of the important questions were discussed, the foremost of all being how best to build up the State association and propagate harmony and fellowship, believing this to be the first step towards success in association work. The gold filled case stamping law, as it now stands, did not meet with the approval of the association, but the same measure would meet with their approval if it included a specified guarantee. Retailing by jobbers and jobbers selling to all kinds of stores was referred to the committee on trade interests. The meeting closed with a banquet. The next meeting will be at Elkins, in the fall.

Pennsylvania Retail Jewelers' Association

On the initiative of the officers of the Pennsylvania Retail Jewelers' Association, a most successful effort was made last month to infuse additional vitality into the organization and enlarge its membership and field of usefulness. The task was assigned to First Vice-President J. P. Archibald, of Blairsville, and Secretary C. S. Wiley, of Pittsburg. Together they journeyed across the State, stopping on their way at Johnstown, Altoona, Harrisburg, Reading, Lancaster and York, terminating their tour in Philadelphia, where a meeting was held on the evening of May 22nd. In each of these cities a personal canvass was made and quite a number of the jewelers were sufficiently responsive to argument to become members of the organization. The fruits of their journey across the State are best evidence in the list of new members, numbering in all fifty-six. The organization can now be truthfully described as thoroughly representative of the trade of the entire State and its power for good is proportionately increased. The list of new members is as follows:

August Loch, E. A. Reinman & Co., North Side, Pittsburg; H. H. Blase & Bro, Wilkes-Barre; W. A. Kraft, G. L. Ruff, Thos. J. Apryle, Johnstown; C. F. Sellers, Rudisill Bros., Geo. M. Bitner, C. F. Wood, Clayton G. Brennehan, Altoona; P. G. Diener, E. L. Rinkenbach, Robt. S. Gitt, I. S. Ricker, Geo. A. Hutman, Harrisburg; Louis Weber & Son, A. R. Rhoads, S. Kurts

Zook, Pirosh & Simmons E. H. Keller, W. W. Appel, Harry Weeber, Wm. Plack, Lancaster; G. A. Schlechter, I. A. Deisher, Cohen Bros., Ebb N. Zell, Frank Tyack, Geo. H. Frees, John F. Beyerle, Saml. K. Hanley, Saml. W. Diller, Jas. W. Kalbach, Geo. W. Schaeffer, Reading; R. T. Polack, Myers Bros., Will K. Rebert, Pirosh & Simmons, A. E. Job, York; Frank Kind, Ira D. Garman, W. H. Thompson, Jr., Frederick C. Bode, I. Bedichimer & Co., Chas. B. Lynch, J. B. Buzbey, J. B. Janssen, Chas. H. Hambly, C. R. Smith & Son, T. S. Mitchell, C. S. Powell, Robt. Saunders, J. Warner Hutchins, Chas. Schwartz, M. I. Darevski, Philadelphia.

The canvass of Messrs. Archibald and Wiley was very timely, preceding, as it does, the annual meeting of the association, which will be held in Philadelphia on August 10th, the first day of convention week in that city. The many attractions on the programme for that week, physical, social and intellectual, should attract a full attendance of the membership, which, we trust, will be still further increased in the interval.

No Protection to Composers

That the present copyright law does not afford the composer of music protection against its appropriation by mechanical musical appliances was the conclusion laid down by the supreme court. The opinion was rendered on two test cases brought by the White-Smith Music Publishing Company, of New York, in which it was sought to restrain the Apollo Company from infringing the copyright on two songs, "Little Cotton Dolly" and "Kentucky Babe," which the Apollo Company without permission had adapted to perforated paper rolls for mechanical pianos. Various other music publishing houses and composers also joined in the case to the extent of filing briefs in support of the contention.

In delivering the court's opinion, Justice Day said the principle of copyright was intended to reward mental creations, but the law had not gone that far, for it applied only to the tangible results thereof. As showing that congress had not intended to include perforated rolls or other mechanical reproductions, he pointed out that the Berne copyright convention of 1886 had specifically excluded them from copyright; that congress had since repeatedly amended the copyright law, knowing the great strides made in the manufacture of mechanical music-playing devices without legislating for them, and that in 1891 it had granted foreign composers, including those who were bound by the Berne convention, the benefit of American copyright, to whom it certainly was not the intent to give greater advantages than to American composers. Then, too, strictly speaking, the perforated rolls were not "copies" of musical productions within the meaning of the copyright law, although they did reproduce the tunes themselves. If there was a defect in the copyright law as regarded musical compositions it must therefore be cured by the legislative branch of the government, not by the courts.

"How to Advertise a Retail Store"

An imposing volume of some 500 pages, entitled "How to Advertise a Retail Store," has been issued by the Outing Press, of Deposit, N. Y. Whether this volume is or is not the most pretentious which has yet appeared on this subject, it seems to be by all odds the most practical and comprehensive. The author, A. E. Edgar, is not merely an advertisement writer with a limited stock of ideas, but a practical merchant, who made a deep study of all branches of the advertising business, and his book is largely the result of his personal experience. The treatise covers newspaper advertising, schemes and selling plans, sales advertising, advertising of specific lines, mail-order advertising, general, technical and miscellaneous advertising. The book can be truthfully described as a complete and comprehensive manual for promoting publicity, and is illustrated with over 500 original newspaper advertisements. We do not know of any feature of publicity or any requirement of the advertiser which cannot be found fully given in this volume. Copies of the book can be had from this office on receipt of publisher's price, \$3.50.

Silverware that Suits the Situation

Trade conditions this spring call for quick-selling stock, that is, handsome, moderate-priced wares, such as will attract the attention, suit the pockets and satisfy the tastes of the public. Ideal stock for such conditions is our new line of

HIGH-GRADE ELECTRO-PLATED WARE

which represents the extreme of economy and skill in manufacture. Artistic in design, varied in pattern, rich in finish, standard in quality and moderate in price, these goods possess to an exceptional degree all the essentials to suit the present situation.

See this line before selecting your spring stock of silverware

POOLE SILVER CO., TAUNTON, MASS.

Manufacturers of Finest Quality of Electro Plate

TO THE JOBBER

Let us help you move your stock by supplying you with our **up-to-date 10 K. line of Cameo Scarfs and Brooches**, which at this time is needed to tone it up.

We are **heavily stocked** in Cameos in order to **protect you** in your later orders.

For **your benefit** we have gone to considerable expense in order to be able to ship your goods promptly, which with our liberal policy can not fail to please you.

We also have a lot of **new samples** in our regular line of Rings, Scarfs, Brooches, Baby Pins, Ear Screws and Crosses. **Do not fail** to see the line.

WM. C. GREENE CO.

101 Sabin Street
PROVIDENCE, R. I.

Est. 1849

Inc. 1906



New Lines for the New Year

Our lines of quick-selling novelties to enliven new year trade include a wealth of exquisite ideas in

Lace Pins, Cuff Pins and Cameo Goods

Don't fail to get acquainted with these, as well as our imposing array of new designs in

Buckles Charms Combs
Bracelets Brooches Hat Pins
Buttons Barrettes Scarf Pins
Leather Trimmings

in STERLING SILVER and ROLLED PLATE. Our goods are the kind that fascinate femininity, and mean substantial profits and a quick turnover.

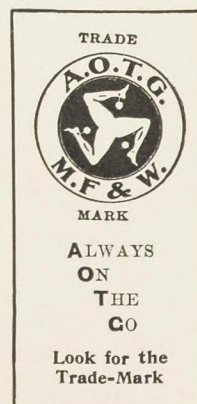
The highest class of workmanship is characteristic of all our lines.

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The Two Greatest Business Enterprises

BY JOHN TWEEZER.

Most of the "biggest" things in the world are American.

That naked sentence is in itself typically American, in the opinion of our European critics who ring the changes on the proposition that the Yankee is given to boasting. But without disputing the impeachment, we "stand pat" on the statement that the really biggest things *are* American; admitting the notable exception in works of art, since art seems to require a certain ripened national condition before it comes into its best estate—and as a nation we are not yet quite "ripe," thank God, but have many years of growth and development ahead before we show "the sear and yellow leaf."

Whatever debate may be inspired on the question of our supremacy in this or that or the other direction, there can be no dispute whatever as to the fact that we have in America the two greatest *businesses* that the world has ever seen in operation—not only biggest, but the *greatest*, in the right meaning of the word. And the purpose of this essay is to bring home to the readers of THE KEYSTONE a realization of some facts not generally known, except in a hazy way, and to show wherein the real greatness of these enterprises lies. It may inspire the reader, as the study of it has inspired me, with a new pride in the genius of the American and a new appreciation of the national conditions which are keeping the American to the fore of the human progress.

One Year's Business of One Corporation, \$757,014,767.68

Before me lies the sixth annual report to the stockholders of the United States Steel Corporation. It covers fifty-five large pages, nearly all in figures, giving the fullest details that were ever embodied into a corporate report. And I pause here to say that I am *not* a stockholder, so am not biased in my comments, but simply express opinions without prejudice and "take pride" without profit.

Here is a American business concern which in a single year made gross sales amounting to \$757,014,767.68, earning a net profit of \$133,244,929.28. Just stop a moment and let these figures sink into your comprehension—if you *can* comprehend them. I frankly confess I can *not*. I can think in hundreds, but not in hundreds of millions. But we can at least be sure that no such volume of business in a single year

was ever before achieved by any one single factor in trade since the world began.

If you have come back to consciousness and taken breath, try to absorb this further fact: In 1907 the corporation employed 210,180 people, to whom it paid in wages and salaries for the year \$160,825,822.

These stupendous figures are beyond our intellectual grasp, and it might not be profitable, though interesting, to further quote specific amounts from this amazing report. But there is profit in noting the processes of financing this huge business, the system in inventorying its assets and the provision against "the unexpected"; the smallest merchant is not generally as conservative, and the Steel Company gives an object-lesson of the highest value to the whole body of trade.

It is the practice of this great concern to inventory all its values at the *lowest* estimate—much below the market price on all materials, for instance; to put aside each year a large sum, out of its earnings, as a sinking fund for bond obligations which will not mature for forty-three years; to set aside, out of earnings, another large sum for the construction of a great new plant, and still another sum for replacements and depreciations. Then, after paying dividends of over \$35,000,000, it carries a large balance of earnings to an accumulating undivided surplus, which surplus now amounts to over \$122,000,000. It is the practice of the corporation to look facts squarely in the face; to not permit itself to gamble on hopes, nor cheat itself in over-valuations of its properties. If the average jeweler were as careful and conservative, there would be less work for the credit-men in the offices of manufacturers and jobbers.

The foregoing facts count for *bigness*; but the *greatness* of the Steel Corporation lies in the facts, first, that it does not abuse its enormous powers; second, that it conceals no information from its stockholders and the general public. In confirmation of the first, the reader will recall that last year, when the demand for steel was far beyond the supply, the Steel Corporation did *not* advance its prices and reap the increased profits which it could have secured; nor, now that demand has weakened, has it *reduced* its prices, to the embarrassment of all others in the business. It has proved itself the great conservative and conserving force in trade. In confirmation of the second fact, this minutely-elaborated report of fifty-five pages is witness. For the first time in the history of the great corporate managements, PUBLICITY is given to the fullest extent to all its operations, so that "he who runs may read" the intimate facts. The unexpected has happened, and a great example is forced upon the attention of interstate and international corporations the world over.

A Railroad 23,000 Miles Long

The actual miles of track in use by the Pennsylvania Railroad, if laid in a single track, would nearly belt the globe. These tracks carried in 1907 153,000,000 passen-

gers and 435,000,000 tons of freight, producing a revenue to the company of \$326,000,000. It required in its operations 6500 locomotives, 263,100 cars and 175,000 employees, who earned \$125,000,000 in wages—about 16 per cent of the total wages paid by all the railroads in the United States.

This greatest railroad in the world gives impressive testimony to the foresight, breadth of comprehension and extraordinary ability of the practical American. In boldness of plan, brilliancy of execution and dexterity of financing, no railroad in the world compares with it. It stands to-day ten years ahead of all other trunk lines in preparedness, and approaches the completion of its entire plan with all its needs financed.

It is the only important railroad which has never gone through a reorganization, and continues its heritage without a blot upon its financial escutcheon. It has paid dividends for fifty-two years uninterruptedly (since 1856), averaging 6.31 per cent. annually. It is one of the few railroads not dominated by any single interest or group, its shares being held by 57,000 persons. Its capital is \$585,569,295.13; and the remarkable fact is presented that in the past ten years \$188 has been expended on its property for every \$100 added to its capital—fulfilling its traditional policy of "putting a dollar into the property for a dollar of dividend."

The Pennsylvania Railroad presents a record of achievements absolutely without a parallel in railroad history. Its earnings have increased 151 per cent. in ten years. The number of tons of freight which it has hauled one mile in one year is equal to the aggregate number of tons hauled one mile by the following six big systems *combined*, with their 42,000 miles of railway: Union Pacific, Southern Pacific, Northern Pacific, Atchison, Topeka and Santa Fe, Great Northern, and Chicago, Milwaukee and St. Paul. Its tremendous operations in tunneling the North River and crossing under New York City to Long Island have excited the admiration of the engineering and financial world. And, withal, it is the most attentive to small details, the most thorough in every feature of operation and most zealous to deserve its reputation as "the model railroad of the world." Its management is not only capable, but clean; for the charge of "grafting," which was brought against some of its minor officials a year ago (and worry over which brought its great executive, Alexander J. Cassatt, to the grave) was found to obtain only against a few subordinates, who were promptly discharged. Its operations are conducted without reference to the stock-ticker. In a word, it is clean-cut, square *business* throughout.

There is inspiration in the fact that these two greatest businesses of the world are *American*; and there is much profit for all of us in study of their systems, their methods and their underlying principles. It is *these* two great corporations, and not, say, Standard Oil on the one hand and Hariman-railroading on the other, which stand as the exemplars of the American ideal in corporate management.

J. T.

CLOCK HISTORY FOR CLOCK COLLECTORS

(Continued from page 1014)

that time. Buhl work—brass and tortoise-shell inlay—is also found. The shelf or bracket clocks of Louis XV were of bronze and gilt, finely ornamented with unbalanced rococo and other details, and sometimes with marquetry and metal mounts. Some of them were quite intricate and ingenious as to works, with strikers, chimes, calendars, etc.

The clocks of the Louis XVI period (1774-1793) are largely decorated with the ribbons and flowers of Marie Antoinette. Very fine mantel clocks were made of glass and alabaster, and less ornate ones were of marble or onyx. The finest of these clocks were covered with glass domes or globes.

Lyre shapes became popular under Louis XVI, and also vase clocks. Human figures came into vogue later. From about 1760 until well on into the nineteenth century elegant mantel clocks were made in marble and bronze, with the dial hanging from a handsome entablature.

With the development of the Empire style in French furniture (1804-1814), the lighter Louis XVI clocks, which persisted through the Transition or Directoire period, gave place to forms, often in solid-looking bronze, in which heavy draperies, wreaths, Roman faces and other Empire ornaments figured prominently.

Early American Clocks

Foreign-made clocks were fairly common in this country by the middle of the seventeenth century, and early in the eighteenth century there were clockmakers in Plymouth, Mass., and elsewhere. At first tall clocks, with plain cases and wooden works, were made here. By 1800 the clock industry in this country was thriving, and we soon began to export cheap clocks. Short and tall clocks were made, with both wooden and brass works, and in several different sizes and shapes. Then came cheaper springs and cheaper and better clocks. About 1800 clocks were selling for \$18 to \$50 each, according to size, style and works, and some fine ones cost as high as \$75.

For purposes of convenient and comprehensive classification I will divide these early American clocks into four somewhat arbitrary groups: Miscellaneous tall clocks, clocks by the Willard brothers and their imitators, Connecticut clocks by Terry and others, and the shelf or mantel clocks of the early nineteenth century.

During the eighteenth century the American tall clocks were of many style and grades, from the cheapest pine cases and wooden works to expensive ones with finely engraved brass faces, brass works, the moon's phases in the arch above the dial, and fine mahogany cases. The best of these old American tall clocks are much prized by collectors. The faces were usually square, with circular dials; the arch above is variable.

The finest of these clocks were made just prior to the Revolution. After 1790 fewer expensive clocks and more cheap ones were made, to conform with post-bellum hard times. After 1790 the tall clocks almost invariably bore plain metal or wooden faces, painted or enameled in white, with colored decorations. Elaborate brass faces were seldom used. Wooden works became more common, for the same reason, often improved bearings made of hard bone or horn.

Painted pine cases became far more common than mahogany.

In these old days clockmakers frequently made the works alone, and these were sold about the country by peddlers. Local cabinetmakers were hired to make the cases. This accounts for the wide variety in style, quality and materials. Sometimes the clockmaker's name is found, sometimes the owner's, and sometimes the local carpenter's; a study of American tall clocks by style and signature is sometimes far from satisfactory. These tall clocks were made in America up to 1815 or 1820, and were then discontinued until the recent Colonial revival.

In the South but few clocks were made. Tall clocks were in general use, but they were chiefly English. In some cases the works were brought from England or the North and the cases made by Southern cabinetmakers.

A few miscellaneous types of American clocks of this period might be mentioned in passing: Miniature grandfather clocks, three or four feet tall; inlaid, lyre-shape clocks after the type of Sheraton, and brass-mounted mahogany clocks in the Empire style.

During this time several towns in Connecticut were gaining a reputation as centers for the manufacture of ingenious, cheap Yankee clocks.

The Connecticut Clockmakers

Eli Terry was the most famous of the Connecticut clockmakers, as well as one of the first. He began clock manufacture as a business in 1793. James Harrison made clocks in Waterbury as early as 1790, and Daniel Burnap made brass clocks at East Windsor at an early date. Their work does not begin to rank in importance with Terry's, however.

In 1807 Terry bought an old mill in Plymouth and got a contract for 500 clocks from some men in Waterbury. The first consignment of clocks made by machinery in this country was turned out in 1808, the whole 500 having been started at once. In 1810 Seth Thomas and Silas Hoadley bought out the Terry factory and continued the manufacture of works for tall cases. There were then similar establishments in Waterbury.

Terry made several styles of clocks. Most of them had wooden works which were so well made that some of them are still good timekeepers. They were peddled all over New England.

There were many other successful clockmakers of lesser importance in Connecticut. About 1818 an excellent eight-day clock of brass was invented by Joseph Ives, and later brass clocks were made in large quantities by Chauncey Jerome and exported to England. He also made a very cheap clock with an octagonal face.

The Willards

In the meantime, Massachusetts manufacturers had been proceeding along slightly different lines. The most famous of them were the three Willard brothers, who made clocks at Grafton, Mass., as early as 1765. Later they manufactured also in Boston and Roxbury. They made tall striking clocks at first, and about 1784 they designed a mahogany shelf or bracket clock about twenty-six inches high.

The famous banjo shape is usually attributed to Simon Willard, though it may have been designed by his brother Aaron. It was a graceful and conveniently arranged form of pendulum clock for the wall; it dates from about 1790, and was made in Boston up to about 1820.

The works were of brass, ran for eight days

and kept good time. There was no striker in most of the banjo clocks. The cases were made of various combinations of mahogany, gilt wood, decorated glass and brass. There were some elaborate ones made about 1815-20, but at first they were neat and comparatively plain. Banjo clocks were selling as low as \$10 in 1807—due, no doubt, to sharp Connecticut competition.

The Shelf or Mantel Clock

In 1814 Eli Terry introduced a short shelf or mantel clock which was, in principle, a tall clock compressed, though not in the form of the miniatures. It was a wooden clock, with shorter pendulum and weights than were formerly in use. It had pillars at the sides twenty-one inches long, a square base and a dial eleven inches square. This clock became very popular and sold for \$15.

Terry made other styles and other makers made various forms of mantel clocks for both kitchen and parlor. Many of them were oblong in shape with square corners. Some were in frames of plain mahogany molding; some were of rosewood and inlay; some had Colonial pillars of wood or composition at the sides, with gilt bands or ornaments. The front generally consisted of a glass door, sometimes plain, but usually painted. Often a landscape and occasionally a portrait appears on the glass below the dial. Sometimes we find mirrors in the lower part. Some of these mantel clocks are handsome, but for the most part they are extremely plain and sensible. A paper notice, giving the name of the maker is often found pasted on the inside of the case, behind the pendulum. Prior to 1820 the date is seldom given.

By 1837 practically all clock works were made of brass, and were much improved and cheaper. With this date ends the period of old clocks.

There are several collectors in this country who make a specialty of clocks, and a delightful specialty it is. Any suggestions that I can offer, however, will be for the owner of one old clock, or at most a few specimens, in connection with other Colonial possessions.

Facts for Collectors

Of course, antique clocks can be counterfeited, like everything else, but a little study of genuine specimens in museums and elsewhere will help the purchaser to know what to look for in case, works and dials. The greatest danger is in paying an eighteenth century price for a nineteenth century clock with an eighteenth century dial, or some similar fraudulent combination. It is wise to examine and compare all the parts.

French mantel clocks are not so popular with American collectors as American and English clocks, and seldom bring over \$50 unless the workmanship is unusually fine. English mantel clocks of the eighteenth century are worth, roughly, from \$50 to \$100; English tall clocks of the same period are worth \$200 to \$450, according to age, workmanship and material.

Willard tall clocks are worth \$250 to \$300, if in good condition; other American tall clocks vary in value from \$150 to \$350, because the materials and workmanship in the cases vary so widely. Willard banjo clocks are worth from \$35 to \$175, according to workmanship and beauty. Terry clocks are worth very nearly what they were when new—\$15 to \$40 for the different kinds. Cheap Connecticut wall and shelf clocks of the nineteenth century are also worth from \$15 to \$40.

United States Patents

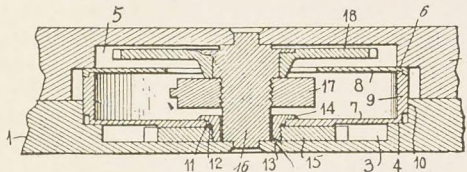
Patents of interest to the trade, recently issued, especially prepared for this journal by Wm. N. Moore, patent attorney, Loan and Trust Building, Washington, D. C.

No. 884,611.—Pin fastener. Isabelle Redles (now by marriage Isabelle R. Shill), Swarthmore, Pa. Filed May 16, 1904. Serial No. 208,230.

In a duplex pin fastener, the combination of a pair of independent safety pins, each having a broad flat back, and means passing through said backs for securing them together with their broadest area in contact, the back of one pin being shouldered for engagement with the back of the other pin.

No. 886,196.—Watch barrel. Lewis A. Faller, Nashville, Tenn., assignor of one-fourth to Stief Jewelry Co., Nashville, Tenn. Filed October 14, 1907. Serial No. 397,417.

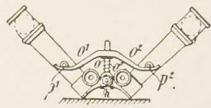
In a watch barrel, a substantially-cylindrical casing having an opening in its bottom, two of the walls of said opening being straight and parallel



with each other, a hollow hub in said opening, the body of which is shouldered and has two of its sides flattened to correspond with said straight walls, the length of said shoulder being less than the thickness of the bottom of the barrel, one end of said hub being provided with a flange and the opposite end being screw-threaded, and a screw-threaded click wheel secured upon said screw-threaded end and adapted to clamp the bottom of the barrel between itself and the flange upon the inner end of the hub.

No. 886,436.—Double telescope. Rudolf Straubel and Jacob Heckel, Jena, Germany, assignors to the firm of Carl Zeiss, Jena, Germany. Filed January 25, 1907. Serial No. 353,980.

The combination with a hinged double telescope adapted to be used on a supporting appliance, of a device which connects, independently of said appliance and in addition to the hinge, both individual telescopes and secures them automatically in their relative position as adjusted to any inter-pupillary distance.

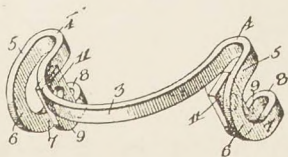


No. 884,979.—Jewel bar. Henry W. Fishel, New York, N. Y., assignor to himself and Theodore H. Fishel, New York, N. Y., copartners, trading as Fishel, Nessler & Company, New York, N. Y. Filed July 12, 1907. Serial No. 383,440.

A jewel setting provided with a jewel socket and with projections located adjacent to the socket, the projection being short and thick and of greatest thickness at the base so that they may be upset to form beads overlapping and securing a jewel in the socket.

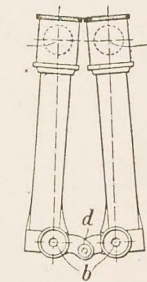
No. 886,467.—Spring bridge. Gustav A. Bader, Rochester, N. Y., assignor to E. Kirstein Sons Company, Rochester, N. Y., a corporation of New York. Filed December 26, 1907. Serial No. 408,076.

The combination with a pair of lenses, of a spring bridge connecting them, having a bridging portion and a pair of forwardly-opening loops at each end of the bridging portion in vertical planes beyond the bridging portion.



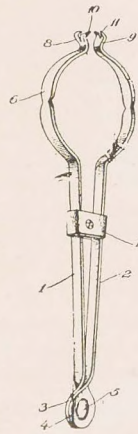
No. 886,435.—Binocular telescope. Rudolf Straubel, Jena, Germany, assignor to the firm of Carl Zeiss, Jena, Germany. Filed May 8, 1906. Serial No. 315,801.

1. In a collapsible binocular telescope the combination with two component telescopes having their main tubes extending in a plane perpendicular to the direction of vision, of a hinge system enabling the component telescopes to be rotated in the said plane relatively to each other, such system being so located relatively to the component telescopes that a distance of 65 mm. between the ocular axes occurs only when the plane determined by the entrance axis and the ocular axis of one component forms an angle of from 70° to 120° with the corresponding plane of the other component, for the purpose set forth in the specification. 2. The combination with two telescopes, the main tubes of which extend in a plane perpendicular to the direction of vision, of a hinge having its axis parallel to the direction of vision and connecting the telescope so that when the distance between the axes of the oculars is 65 mm., firstly, there is an angle of from 70° to 120° between the plane, determined by the entrance axis and the ocular axis of one component and the corresponding plane of the other component, and, secondly, the hinge axis lies at the same side of the plane containing the ocular axis as the entrance axis.



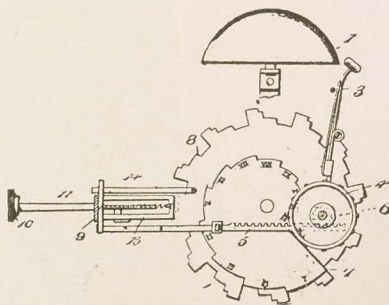
No. 884,968.—Display holder for gems. Rawson L. Wood, New York, N. Y., assignor to J. R. Wood & Sons, New York, N. Y., a copartnership. Filed January 15, 1908. Serial No. 419,993.

A display holder for gems comprising two half sections of a ring, a half setting upon one end of each of said ring sections, a handle upon the opposite end of each of said ring sections and means for drawing said handles together.



No. 884,686.—Time strike for watch and clock movements. Carl H. J. Strickler and Edward Meyer, San Antonio, Texas. Filed April 23, 1907. Serial No. 369,802.

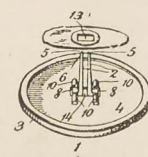
In a device of the character described, the combination of a snail, a slidably-mounted bar, a



sound-producing device operated by the slidable bar, a rod journaled upon the bar, and a tappet for engaging the snail to limit the movement of the bar, said tappet being controlled by the rod.

No. 885,879.—Detachable button. Lillian Y. Smith, Parker, Kans. Filed December 8, 1906. Serial No. 346,861.

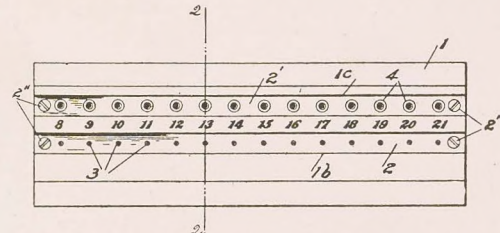
In a button, the combination with the head comprising a back plate of spring material, a front plate secured at its edges to said back plate and having an opening and two parallel pairs of bearings opposite said opening; of two straight prongs with pointed front ends having their rear portions entering said opening and bent



at right angles into extensions, both prongs and extensions standing in a single plane, a rectangular cross bar secured to each extension and having one flat face contacting with said spring plate, and trunnions projecting from the outer ends of the cross bar and journaled in said bearings.

No. 885,838.—Jewel and pivot gage. Fred. R. Coats, Springfield, Ill. Filed August 9, 1907. Serial No. 387,943.

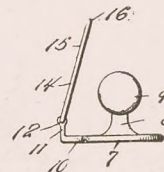
In a jewel and pivot gage the combination of a block having longitudinal channels and gage design-



nations intermediate of said channels retaining plates fitting in said channels respectively, posts secured on one of said retaining plates and having pivots of standard gage corresponding to the designations on the block, and jewels mounted on the other retaining plate and having holes corresponding to the designations on said blocks respectively.

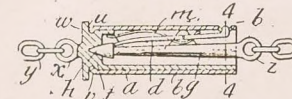
No. 885,416.—Collar button. Harry J. Wylie, Kutztown, Pa. Filed May 18, 1906. Serial No. 317,612.

A button comprising a base including a lateral extension provided at its free end with an upwardly-extending member; a stem secured centrally to said base; a U-shaped retainer having the intumed ends of its legs pivoted to said member, said retainer being adapted to be swung into and out of engagement with the stem; and a head pivoted to said stem for movement in a direction at right angles to that of said retainer directly over the latter when in engagement with said stem, whereby the retainer is held against displacement from said stem.



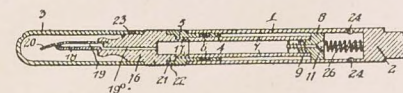
No. 885,267.—Clasp. Edgar J. Martel, Ware, Mass., assignor of one-half to Zephir Potvin, Webster, Mass. Filed September 14, 1907. Serial No. 392,825.

In a locking device for neck chains comprising an outer and an inner shell rotatably secured together, the inner shell carrying a locking lever pivotally secured to the same, a spear having an enlarged head for receiving the end of the locking lever, whereby the spear and shells are locked together.



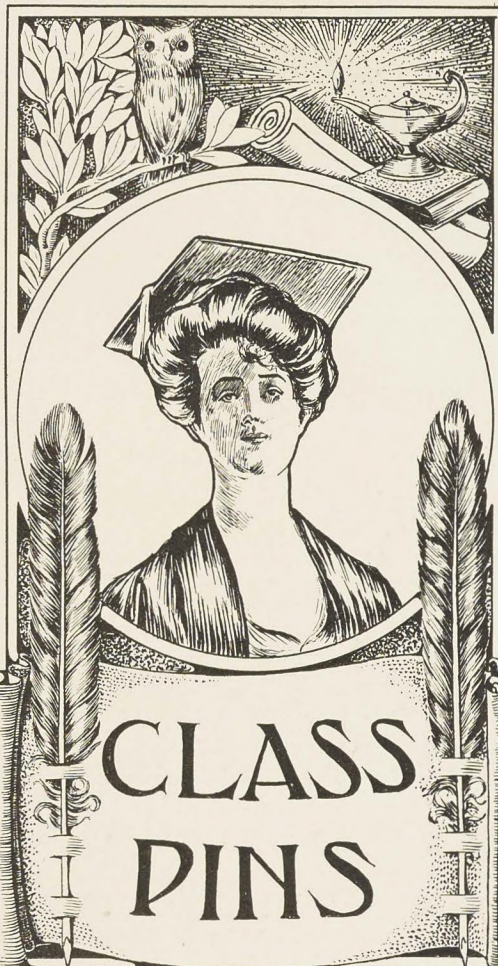
No. 884,412.—Fountain pen.—Frank J. Oberdoerster and Adolph Oberdoerster, Akron, Ohio. Filed November 27, 1907. Serial No. 404,108.

In a fountain pen, the combination of an outer casing, an ink tube slidably mounted within said



casing and provided with a feeder and pen point upon its outer end, said ink tube having a valved inner end, and said outer casing having means whereby a vacuum may be formed therein when the same is drawn rearwardly upon said ink tube to draw the ink upwardly within said tube, substantially as described.

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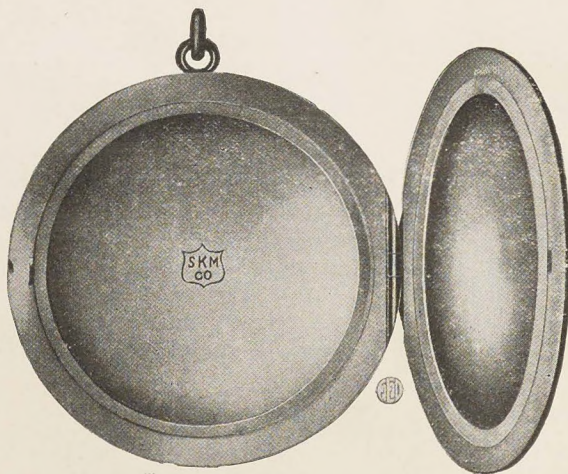


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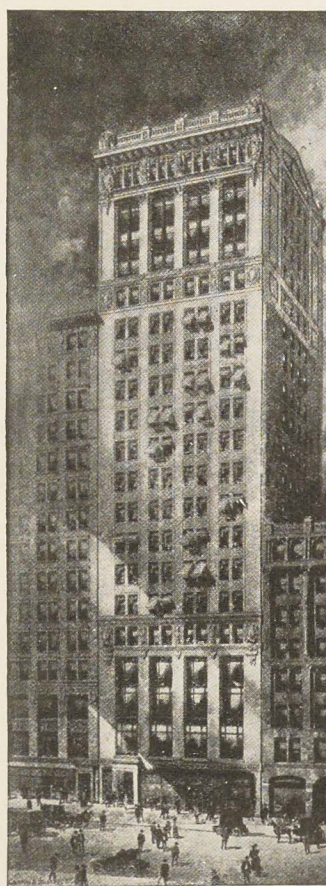
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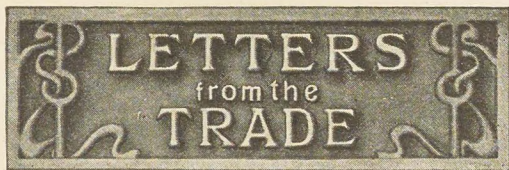
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Readers are requested to send for publication new ideas on any subject, technical or mercantile, of general interest to the trade. As this page is for the use of individual readers, we do not hold ourselves responsible for the views expressed.—Editor The Keystone

Pith for Jewelers' Use

ED. KEYSTONE:—Sometime ago I saw an inquiry from one of your subscribers in regard to a good pith. I consequently enclose for your examination a piece of the kind I use, which is the pith of burdock. I gather it late in the fall or during the winter, taking the stalks standing. I then saw them into pieces about four inches long and remove the hard shell. With a knife I pare it down until it is in the form of the specimen enclosed.

Yours truly,
Elgin, Ill. J. J. SMITH.

A Suggestion for Watchmakers

ED. KEYSTONE:—I have a suggestion for watchmakers who are compelled to use spectacles at their work which will enable them to obviate the trouble of taking off the spectacles to put on the eyeglass.

My plan is to have a strong segment put in the right eye of the spectacles I use at the bench.

I have used these spectacles and eyeglasses combined for about seven years, and the combination has given good satisfaction.

Very truly yours,
Victoria, Kans. HENRY THOLEN.

The Youngest Jeweler

ED. KEYSTONE:—In regard to the question started in your journal as to who is the youngest jeweler, I offer myself as entitled to this distinction. I began to repair watches, clocks, jewelry, etc., at the age of fifteen years. At the age of eighteen I started a jewelry store and have been running it ever since, with much success. I am now thirty years old. If anyone can beat this record I would like to hear from him.

Yours very truly,
West Salem, Ohio. W. H. HIMES.

ED. KEYSTONE:—In answer to the question in the April KEYSTONE as to who is the youngest watchmaker, I wish to say that I am not positive whether I am the youngest or not, but here is my record: I started working for my father at the age of thirteen and worked with him until fourteen. Then I attended school for one year, graduating at the age of fifteen. I have been working at the trade since graduating and am now eighteen years

old, which means that I have spent five years at the bench.

Yours truly,
Victoria, Kans. H. J. THOLEN.

Locking the Door Automatically

ED. KEYSTONE:—Will some of your readers kindly inform us of some device for locking by electricity our front door from behind the counter while engaged in showing goods to a suspicious customer? We understand that this can be done and would be pleased to have information in regard to the mechanism.

Yours very truly,
New Haven, Conn. S. SILVERTHAU & SONS

Form of Retain Title

ED. KEYSTONE:—We enclose form of retain title note that has proven the best collector we ever had in our business. It is not original, how-

\$.....	Sandersville, Ga.,	1908
On or before the..... day of..... 1908, for value received, the undersigned, of the County of..... State of..... jointly and severally promise to pay to the order of SCARBOROUGH & GARBUTT, at Sandersville, Ga.,		
..... DOLLARS,		
with Exchange, with interest at eight per cent. per annum from maturity until paid, and if placed in the hands of an Attorney for collection after maturity..... agree to pay a reasonable Attorney's fee; and each of us, whether principal, security, guarantor, endorser, or other party, severally waive presentment for payment and notice of protest for non-payment of same, and also waive all homestead and exemption laws as to this debt. It is also further understood and agreed, that the title to		
.....		
for which this note and..... other notes for the total sum of.....		
are given in payment, shall remain in said SCARBOROUGH & GARBUTT, or their assigns, until said notes are paid in full, with the right in said SCARBOROUGH & GARBUTT or their assigns, to assume possession of the same at maturity of this note, unless the same is paid.		
..... also agree not to remove said..... from.....		
without written consent of SCARBOROUGH & GARBUTT.		
Witness..... hand... and seal...		
No.....	[SEAL.]
Due..... 1908.	[SEAL.]

ever, but as we found that all collecting attorneys here praised it as one of the very best forms of legal promissory notes, we thought possibly it might help some of our brother jewelers.

Truly yours,
Sandersville, Ga. SCARBOROUGH & GARBUTT.

Lightning Instruction

ED. KEYSTONE:—Here is a clipping from a country weekly paper, Vienna (Ill.) Times:

WANTED—Responsible and ambitious young man or woman to learn the watchmaking and engraving trade. After four months will pay \$15 per week. Better than shorthand or bookkeeping, because hours are shorter, opportunities greater and wages better. Board earned while learning. Railroad fare paid. Enclose stamp. Dubuque Engraving Co., Dubuque, Iowa.

Of course, it speaks for its own self. But think what fools the people must be who learned the watchmaking and engraving trades (or profession) by serving four years as apprentices and then working one year under instruction, when they might have learned it all with a lot more (probably horseshoeing) thrown in. Yes, learn watchmaking by steam and engraving by machine! The country has enough of hams in the trade, so why more? The railroad fare looks good. Why not throw in cigars, beer and board?

Truly yours,
Mound City, Ill. AN OLD-TIMER.

Spectacle Lenses Become Cloudy

ED. KEYSTONE:—Our town, as you know, is located on the shore of the Gulf of Mexico. On many days the atmosphere is filled with salty moisture, which ruins a good many of my spectacle lenses, making them cloudy. This cloudiness can in nowise be removed. A jobber told me that it was known as "zinc rust." Do any of your readers know of a remedy for it?

Yours truly,
Galveston, Texas. D. R.

The Hardness of Diamonds

A word as to the hardness of diamonds. They vary much in this respect; even different parts of the same crystal vary in their resistance to cutting and grinding. So hard is diamond in comparison with glass that a suitable splinter of diamond will plane curls off a glass plate as a carpenter's tool will plane shavings off a deal board. Another experiment that will illustrate its hardness is to place a diamond on the flattened end of a conical block of steel, and upon it bring another cone of steel. If I force them together with hydraulic power I will force the stone into the steel blocks without injuring the diamond in the least. The pressure which I have brought to bear in this experiment has been equal to 170 tons a square inch of diamond.

The only serious rival of the diamond in hardness is the metal tantalum. In an attempt to bore a hole through a plate of this metal a diamond drill was used, revolving at

the rate of 5000 revolutions per minute. This whirling force was continued ceaselessly for three days and nights, when it was found that only a small point, one-fourth of a millimeter deep, had been drilled, and it was a mooted point which had suffered the most damage, the diamond or the tantalum.

After exposure for some time to the sun, many diamonds glow in a dark room. One beautiful queen diamond in my collection, when phosphorescing in a vacuum gives almost as much light as a candle, and you could easily read by its rays. But the time has hardly come when we can use diamonds for domestic illuminants. Mrs. Kunz, wife of a well-known New York mineralogist, possesses perhaps the most remarkable of all phosphorescing diamonds. This prodigy diamond will phosphoresce in the dark for some minutes after being exposed to a small pocket electric light, and if rubbed on a piece of cloth a long streak of phosphorescence appears.

—Sir William Crookes, in *The North American Review*.

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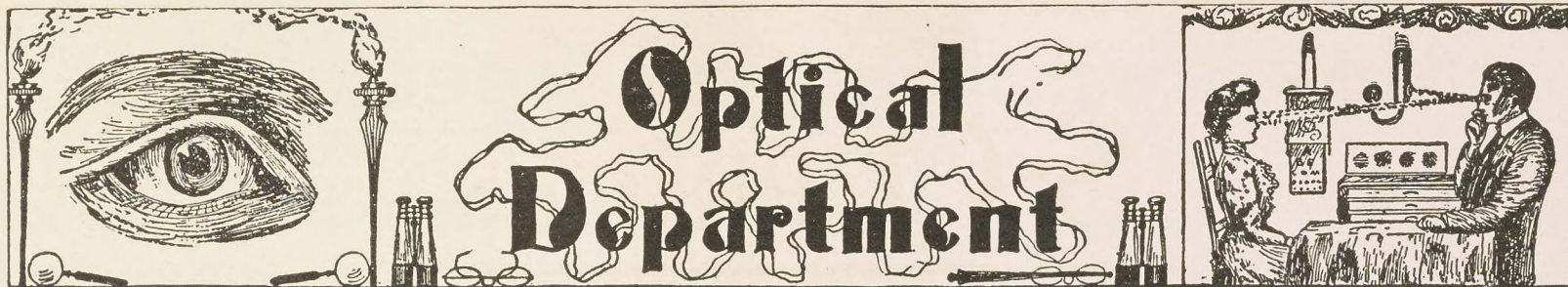
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Reviews of Current Ophthalmological Literature of the World

The Problem of the Crossed Cylinder and the Modified Stokes Lens

To find the exact optical equivalent of two crossed cylinders has always been an interesting problem for the practical optician. It is true that nowadays there are very few prescriptions which call for crossed or rather for cylinders with axes oblique to each other, for it is well known to the refractionist that he can always get the same optical result for the eye by a spherocylindrical combination as he can by two cylinders. However, this problem is still interesting in itself and especially in view of the attempts that have been made now and then to construct an instrument which should allow of measuring the astigmatism by having the effect of a variable cylinder from zero to 6 dioptres. Probably the first attempt of this nature is the lens of Stokes which consisted of a plus and a minus cylinder of the same dioptric strength, which, however, had the great disadvantage that the axes of the different cylinders were changing all the time. This was remedied in 1873 by Snellen, who had the optician, Cretes, of Paris, make a Stokes lens for him with the same cylinders which latter, however, were rotated in opposite directions so that the axis of the variable cylinder remains always the same. Although thus the lens obtained a stationary axis, it still had the disadvantage that by the rotation of the two cylinders not only a variable cylinder but also a sphere was produced which interfered with the determination of the exact refraction.

In order to get rid of this spherical element Snellen later had Cretes construct another instrument which consisted of two minus 3 D. cylinders and a minus and a plus 10 D. lens. The minus 10 D. lens was near the eye while the plus 10 D. lens was moved away from the eye simultaneously with the rotation of the two cylinders in such a manner that the minus spheres produced by the rotation of the two minus cylinders were exactly neutralized by this movement of the plus 10 D. lens. But even this combination had the slight defect that there was a magnifying result by the removal of the plus 10 D. lens from the eye. In order to remove even this defect Dr. Carl Weiland, in 1894, had another instrument constructed and made by D. V. Brown, of Philadelphia, in which he used two minus 3 D. cylinders and also one plus and one minus 10 D. lens, the plus lens being stationary and the minus 10 D. lens movable in such a manner that all the spheres created by the rotation of the two cylinders were neutralized, but without any magnification of the image. This latter instrument which, by the removal of the two cylinders, could also be employed as a simple opto-

meter, has not come in general use, probably like the instrument of Snellen, on account of the rather complicated arrangement of the whole system. For this reason the latest attempt in this direction by De Zeng, of Philadelphia, does not try to eliminate the spheres by any complicated arrangement, but simply allows for this undesired element by eliminating it in the final calculation of the glass. De Zeng uses two minus 1.5 D. cylinders and rotates them in opposite directions, thus keeping the axis stationary. Now, starting with both axes of the cylinders at 180° and progressing respectively to 15°, 30° and 45° in opposite directions, the results would be respectively 3, 2.598, 1.5 and 0 cylinder—that is a rotation of 15° would produce a difference of not quite .5 D. in the neighborhood of 3 D. cylinders, while the same degree of rotation in the neighborhood of 1 D. would already produce a difference of 1.5 D. in the cylinders. It is clear, therefore, that such combination is much more sensitive where we least require it, and that it is not sensitive near the zero point. In order, therefore, to make the instrument more sensitive near the zero point De Zeng adds a plus 3 D. cylinder with its axis parallel to the other two cylinder axes, taking this for his starting point. In this manner he gets by a rotation of the two minus cylinders in opposite directions from the zero position to respectively 15°, 30° and 45°, the cylinders 0.402, 1.5 and 3 D.; where, therefore, a rotation of more than 15° is required to produce a .5 D. cylinder. Thus the instrument becomes quite sensitive at the proper point. In the final calculation of the glass allowance must be made for the fact that while in the instrument the cylinders increase from 0 to 6 D., the spheres increase from 0 to 3 D. and that the produced sphere is always equal to half the value of the produced cylinder.

For those of our readers who would like to make their own rotary cylinder, we will give here the necessary formulae. More than fifteen years ago Dr. Carl Weiland, of Philadelphia, in the Archives of Ophthalmology, showed that, given two cylinders C_1 and C_2 , the former having its axis at α degrees and the second having its axis at β from the horizontal line, one could find the third cylinder C_3 with its axis at δ degrees, and the resulting sphere D by the following formulae:

$$\begin{aligned} \text{tang. } 2\delta &= \frac{C_1 \sin. 2\alpha + C_2 \sin. 2\beta}{C_1 \cos. 2\alpha + C_2 \cos. 2\beta}; \\ C_3 &= \frac{C_1 \sin. 2\alpha + C_2 \sin. 2\beta}{\sin. 2\delta} \\ \text{and } D &= \frac{C_1 + C_2 - C_3}{2} \end{aligned}$$

Now, if we make the two cylinders alike—that is if we make $C_2 = C_1$ and further rotate the two cylinders in opposite directions, our formula for δ becomes $\text{tang. } 2\delta = 0$; that is the axis remains the same as it was in

the primary position when both cylinder axes coincided. C is now found by the formula:

$$C_3 = 2C \cos. 2\alpha \text{ and } D = \frac{2C - C_3}{2} = C(1 - \cos. 2\alpha).$$

If like in the De Zeng cylinder we add a fourth cylinder of such a strength and sign that it neutralizes the two moving cylinders in the primary position, we have to subtract this cylinder from C_3 and then obtain for the final cylinder the formula:

$$2C \cos. 2\alpha - 2C = -2C(1 - \cos. 2\alpha).$$

This last formula shows that the final cylinder is always of the opposite sign, but of double the strength as the resulting sphere D . Of course, if the two moving cylinders are concave we have to give C the minus sign when making the calculations.

The Centune System

The following article, reprinted from *Ophthalmology*, is from the pen of Dr. Ernest E. Maddox, whose book on "The Ocular Muscles" is so well known to the readers of THE KEYSTONE. This distinguished author here advocates a new nomenclature for angles which for practical use appears to have most excellent features. Especially in ophthalmic practice it allows of a very convenient and uniform nomenclature, although it has the disadvantage that the angles for the different kinds of centunes are quite different, at least for the higher number of centunes, and further that the angle belonging to a certain number of the same centunes—say six, is not six times the angle for the first centune. The conception, however, of a centune deserves to be well studied, as it probably will be widely used later on in the work of the ophthalmologist and refractionist.

Reluctantly, while revising the last edition of my book on prisms, I was made to feel the necessity of a new nomenclature for angles to introduce order into what was previously rather disconnected.

It is only fair to mention that the idea grew out of the prism diopter and the centrad. These units find their place in the new system in which they are more correctly named and classified, but the system, being an expansive one, permits other unit angles to find their place in it also, as different branches of science may require.

I have suggested the name *centune* as that of the new unit angle. It is defined as an angle subtended by a line whose length is one hundredth of the distance of its origin from the vertex of the angle. The line may be an arc, or possess a parabolic, hyperbolic or any other defined curvature, or it may be a straight line bearing any given relation to one or other limb of the angle.

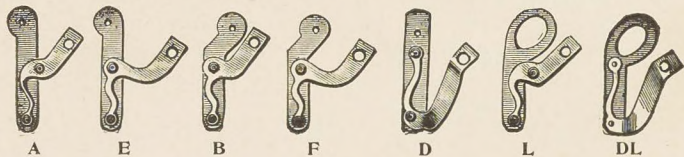
It will be at once seen that the centune is a generic unit, since though fixing the length it does not fix the nature of the subtending line, which may be of any specified variety. It is, in short, a

(Continued on page 1025)

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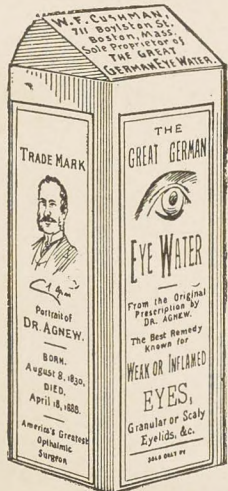
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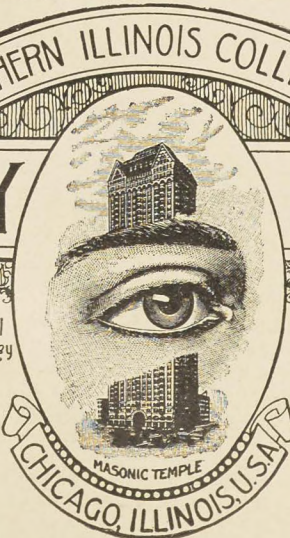
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Ophthalmological Reviews

The Centune System

(Continued from page 1023)

1 per cent. unit, and angles can be described in percentages if preferred.

The object of this paper is not to advocate the adoption of the new system, but only to endeavor to make its nature clear in order that it may stand or fall on its merits.

The subtending line of a centune may be the arc of a circle whose center lies at the vertex of the angle, with radius one meter; it is then an arc centune.

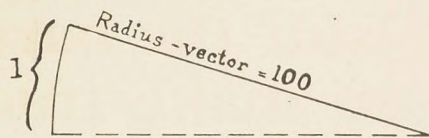


Fig. 1. Arc-centune

Or it may be a straight line erected perpendicularly on one limb of the angle from the point a hundred times further from the vertex than its own length. It is then a tangent centune.

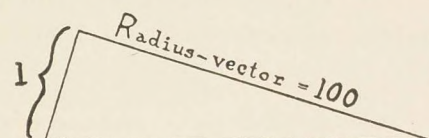


Fig. 2. Tangent-centune.

Should, however, the subtending 1 per cent. line be dropped perpendicularly upon the other limb, the angle is a sine centune, a unit now proposed for the first time, which may prove to be of

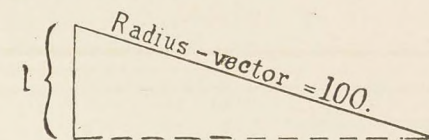


Fig. 3. Sine-centune.

service in geometrical optics where sign ratios prevail. With any transparent medium exposed to light, the angle of incidence and the angle of refraction are to each other as the refractive index, if angles be measured sine centunes. Moreover, for the study of the meter angle the only perfect unit is the sine centune since the meter distance is not measured in the median plane of the head, but obliquely from each eye to the point of fixation in the median plane. The meter angle, therefore, contains as many sine centunes as there are centimeters in half the distance between the centers of the two eyeballs (see Fig. 4).

Railway gradients, if expressed in the percentage system, would also be in sine centunes. A gradient which rises one foot per hundred is a gradient of one centune; a rise of one foot in fifty is a gradient of two centunes, etc. (see Figs. 5 and 6). Owing to the manner in which the gradient is measured, the sine centune is the species for that purpose, since the hundred feet are measured on the slant while the rise is measured as perpendicular. A sine centune is a rather larger unit angle than an arc centune and that again is larger than a tangent centune. The diagrams, though enormously exaggerating the angle, are proportionately correct. To make a protractor for sine centunes is extremely easy. A sheet of celluloid cut to the shape of a right-angled triangle need only have a millimeter scale marked on one or both of the edges adjacent to the right angle. When two dots are made on the paper, ten centimeters apart, the

right angle need only be passed in between them till one edge touches one dot while the other edge meets the other dot at the proper millimeter mark, each millimeter representing one sine centune. Then the angle between the other edge (adjacent to the right angle) of the protractor and the line joining the two dots encloses the angle required.

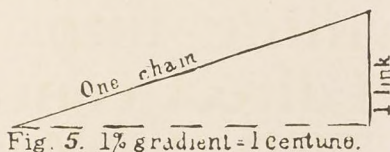


Fig. 5. 1% gradient = 1 centune.

When we open a pair of dividers so that their points shall include a distance one-hundredth of the length of each leg the angle between the legs is a chord centune. A chord twice as long would subtend an angle of two centunes and so on. This unit is only mentioned as an illustration of the flexibility of the centune system.

With regard to the decentration of lenses, it would not be just to forget the excellent work done by Charles F. Prentice in connection with the prism diopter which

was the first attempt to introduce a meter unit into the domain of prisms. The prism diopter (or tangent centune, as it would be called when given its place in the centune system) is not, however, quite as accurate a unit for the decentration of lenses as has been supposed, owing to no account having been taken of spherical aberration. The radius of the pupil is so small that we rightly ignore its effect on the nature of a pencil of light which fills the pupil. But when it becomes a question of the deflection of that pencil as a whole by decentration of a lens, as much as one centimeter, for example, the effect of spherical aberration cannot be neglected in any accurate investigation. A ray of light incident on a lens in a direction parallel with the principal axis is deflected by an angle greater than one prism diopter (see Fig. 7), so that it intersects the principal axis at a point nearer the lens than the principal focus.

Continuing on its way it meets the focal surface at a certain distance from the principal axis, a departure which is called "lateral aberration." This lateral aberration is in a direction which points toward the arc centune as being rather truer than the prism diopter, since it is a slightly larger unit angle and does not decrease in size like successive prism diopters do.

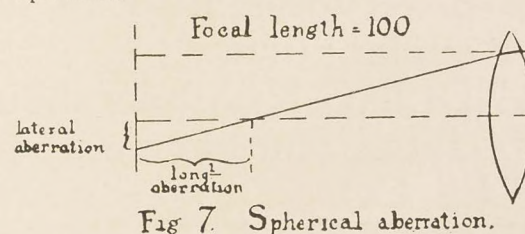


Fig. 7. Spherical aberration.

In contrast to the gradual diminution in the size of the angle in successive prism diopters, when a lens is decentered, each increment of decentration produces a more than proportionate increase of spherical aberration, so that the arc centune fits it better, though, of course, no existing unit fits it perfectly, and it would not be worth while to construct an elaborate one for the purpose.

This consideration should help to endorse the decision of the American Ophthalmological Society in favor of the centrad, which is here called the arc centune, as the best unit for the numeration of prisms.

The measurement of prisms by wall scales, which I introduced in 1866, still remains the best clinical method for the measurement of their deviation, and it is well to have the scales marked both in degrees and in arc centunes.

Tangents of arc centunes being projections of arc centunes on the flat, are quite different from tangent centunes, and, indeed, the former become progressively larger on the scale.

In ophthalmic practice the amount of decentrating practicable is so limited that the difference between arc centunes and tangent centunes is quite insignificant, and the name centune alone, or its equivalent mode of expression in percentage of deviation, is quite legitimate, manufacturers being free to treat in either way.

The interesting observation which I published some twenty-three years ago, that the effect of a prism on the fixation line when combined with a lens truly centered in front of the eye, differs from the deviation of light by the prism, introduces another complication into this department of work, so that we may well describe prisms merely by centunes, or in other words by the percentage of their deviation without further specification. Thus a two per cent. prism is one which deviates light two centimeters per meter.

The different species of centune enables us to be as accurate as we please in any case which calls for complete accuracy.

A New Attachment for the Skiascope

At a recent meeting of the ophthalmic section of the St. Louis Medical Society, Dr. E. H. Higbee showed a new attachment for the skiascope which in the following discussion Dr. J. Ellis Jennings thought a very convenient arrangement with the distinct advantage that it excluded all light except that coming through the pupil. According to the doctor's remarks, in nearly all instruments for measuring the refraction of the eye, a chin rest is provided for the purpose of keeping the patient's eyes in one position. This is a mistake which Dr. Higbee has endeavored to obviate by constructing an eyepiece much the shape of an eye cup. When you place the patient's eye inside the cup he will keep it permanently in the one position. This attachment has been made for the skiascope. The cup is attached to one end of a flat spring, the other end having a lug which drops into small holes on the skiascope disk. These holes are placed in such a position that the lug on the spring drops into them as you turn it. The eye cup, being on the other end of the spring, comes exactly opposite the lens each time. In this instrument the lenses are much smaller ($\frac{5}{8}$ inch in diameter) than those in the ordinary skiascope, but by having the eye permanently

fixed the results obtained are just as good as with the larger lenses and the work can be done with just as much facility. Another advantage of the eye cup is the fact that it excludes all rays of light except those which come from the skiascope mirror.

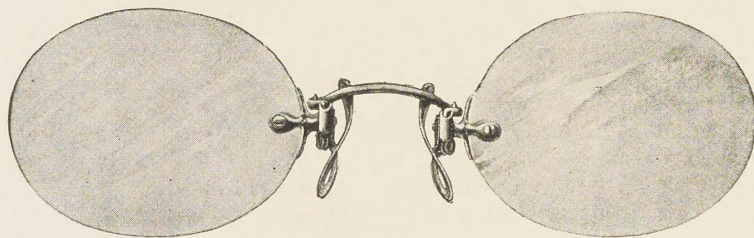
This is an inexpensive attachment which can be made for any skiascope in which the lenses are inserted around the margin of a circular disk. The middle of the spring is bored out in such a manner that it can be attached to the axis upon which the disk turns.

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(Continued. Part XLII)

Names of the Areas.—In drawing up the chart, let everything be denominated by the *patient's* right and left, and not by the surgeon's. This is an invariable rule for everything in ophthalmology. Fig. 74, which will appear in its numerical order, shows the names which I think it best to permanently give to the areas, in view of a namesake principle to be described later on. They are names easily recalled, because simply descriptive of their position from the patient's point of view.

Inscription.—The mode of inscribing the false image or the diplopia is a matter of taste, and I have not yet settled on a final choice. My favorite way at present is to represent the true image by a dot in the center of each area, leaving the imagination to construct a vertical line through the dot. Then a thin vertical line from the dot represents the vertical element, a horizontal line from the end of that the horizontal element, and a larger dot at the end of that line represents the false image.

The advantage of this plan is that we are not bound to inscribe the torsion if the patient's account of it is unsatisfactory, while if we do wish to inscribe it, a thin line through the second dot shows it at once (as in Fig. 56). Moreover, if we wish to make a quantitative record, we can use dotted lines and make each dot represent a degree, to represent the horizontal and vertical element; or an inch, or any unit we like to choose. The torsion can also be marked in degrees.

Never forget to record on the chart to which eye the false image belongs.

Even Incorrect Statements are Valuable, if True Comparatively.—It need hardly be said that comparative statements about the diplopia in the different areas are more common with patients than absolutely true measurements, yet though the patient's idea of an inch may be far out, it does not matter if he is consistent otherwise, and maintains his peculiar inch throughout. To enable him to do so, care should be taken to hold the test object at the same distance from the eyes throughout the test. With the ophthalmoscope handle, three or four feet is a convenient distance; with a candle, six feet.

If more than one muscle be affected, the diplopia may increase in more than one direction, and each direction may then be studied independently. Thus, if a depressor and an elevator be both paralyzed, diplopia will increase both upwards and downwards, and become almost nil on looking straight forward.

In dealing with multiple paralyses, a careful inscription should be made in every area of the chart, without bias or prejudice, and then the affected muscles should be puzzled out from it.

To Read a Simple Chart.—At the risk of being tedious, I will give one example of a single paralysis. An inspection of Fig. 61:

(a) Shows diplopia *upwards*; therefore, involving one of the group of sursumductors.

(b) The highest image (say) belongs to the right eye; therefore, the muscle is one of the elevators of the right eye.

(c) Its maximum vertical diplopia is up and to the right; therefore, it is a *dextral* superductor. But there is only one such muscle of the right eye—the superior rectus. Found, therefore.

Does the torsion agree? Yes; for though there is none in the right superior area, there is marked *lævotorsion* in the left superior. Had it been a case of the right inferior oblique, the greatest elevation would have been to the left side, and the greatest torsion to the right side; moreover, the torsion would have been *dextrotorsion*. The diagnosis is confirmed, therefore.

To Read a Multiple Chart.—(a) Begin by noticing in how many and which cardinal directions the diplopia seems to increase, and if it does so in more than one direction, begin with that of *greatest* diplopia. Observe which *group* this greatest diplopia points to. (b) If the observed diplopia be horizontal, the muscle is found, for the image most removed from the center of the chart belongs to the affected eye. (c) If the diplopia be vertical, the muscle affected is a rectus, if the area of greatest vertical diplopia is

on the same side as the eye that sees the false image: it is an oblique if on the opposite side.

Next find the direction of second greatest (independent) diplopia and study that in the same way. Then the third, and so on.

Independent Diplopiæ.—Diplopiæ in opposite halves of the motor field in which the false image occupies opposite sides of the true image are independent.

If the false image remain on the same side as the true all across the field, then it is not a case of two independent diplopiæ, but there is a concomitant element, due either to an anomaly of the converging innervation or to what is generally called the "secondary contracture."*

If the separation of the images is constant in amount, the diplopia is entirely concomitant; but if it differs in degree in different areas while ever the same in kind, there is a paralytic element as well as a concomitant one.

Concomitant elements are distinguished by pervading the whole field and, therefore, an investigation of every area in the field of single vision, as by the rod test, leads to a fair estimate of their amount.

In all multiple paralyses the diplopia produced by one muscle may alter that due to another, so that any untypical features of diplopia should be examined to see whence the disturbance from the typical proceeds, just as an astronomer discovers planets unknown to him by observing the disturbances of those he does know. Those who have not experienced it are little aware of the difficulties that sometimes attend the analysis of multiple paralysis, with much heterophoria.

Guides.—With regard to the *direction of greatest diplopia*, it is useful to bear in mind the following three guides to it, which, however, are only roughly true:

- (1) The *face* looks at it.
- (2) The affected *eye* lags from it.
- (3) The *false image* travels towards it.

The following chart classifies the twelve ocular muscles, not anatomically but physiologically, and as we have to study them clinically:

4 Sursumductors	2 Dextral	{ R. Sup. Rectus. L. Inf. Oblique.
	2 Læval	{ L. Sup. Rectus. R. Inf. Oblique.
4 Deorsumductors	2 Dextral	{ R. Inf. Rectus. L. Sup. Oblique.
	2 Læval	{ L. Inf. Rectus. R. Sup. Oblique.
2 Dextroductors		{ R. Ext. Rectus. L. Int. Rectus.
2 Lævductors		{ L. Ext. Rectus. R. Int. Rectus.

It will be seen that the six pairs in the right-hand column are Graefe's "true associates."

CHAPTER IX

Ocular Paralyses (Continued)

Optical Illusion.—Patients sometimes mention that the lower of the two images, which are seen when any depressor muscle is paralyzed, appears nearer to them than the true image. As bearing on this, Nagel has shown that a ball hanging on a thread, presented to the inspection of a person with vertical diplopia, appears as two balls, one vertically above the other; while the same ball on a plate appears as two balls (and of course two plates), one in front of the other. This clearly indicates the nature of the phenomenon in our patients. They estimate the nearness of the false image with reference to a horizontal plane, generally the *floor*, which corresponds to Nagel's plate, instead of estimating it with reference to a vertical plane, such as the *wall*, which would answer to his thread. A line proceeding from the eye through the lower image would, of course, strike the floor at a nearer point than a similar line through the higher image.

The illusion can, therefore, be dissipated by any plan which occupies the patient with the wall to the exclusion of the floor; as, for instance, by placing the candle or test object against the wall at a sufficient height while the patient's head is thrown back a little (Landolt).

If the false image also appear smaller than the other, it is probably only because it is thought to be nearer.

*The concomitancy of "secondary contracture," or "consecutive deviation," as it is better to call it, is very imperfect, the deviation becoming less and less towards the limits of minimum diplopia.

(TO BE CONTINUED)

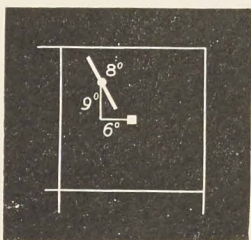
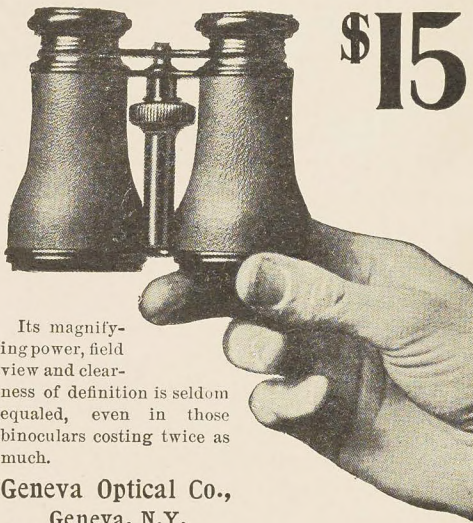


Fig. 56

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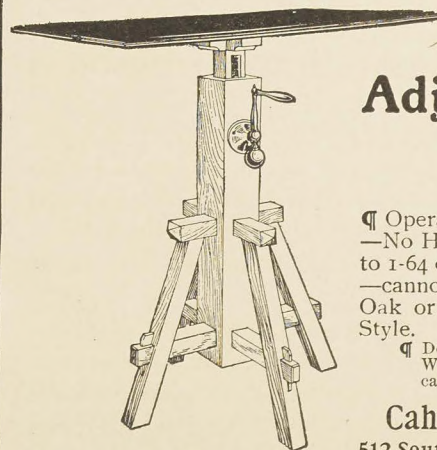
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Clinics in Optometry

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The clinics which appeared each month in this department from May, 1904, to April, 1907, inclusive, have been republished in book form at the urgent request of our subscribers, and can now be had in one volume, price, \$1.50. As supplementary to this volume, we will continue to publish, as heretofore, a complete clinic in each issue, until such time as every possible defect of vision or abnormal condition of the eye will be covered. In order to make the clinics of maximum benefit, we invite our readers to send us any criticisms or suggestions that they may have to make in regard to the methods of examination and corrections here given.

Hysterical Amblyopia

This patient, Mrs. J. M. J., is 25 years of age, and, to all appearances, in the best of health. I have noticed her as she was awaiting her turn, and could see an uneasiness of manner, which usually indicates a nervous temperament.

She tells us that the sight of her right eye began to grow dim about two months ago, and has continued to get worse, until now she can scarcely see at all with it. She had the common diseases of childhood, from all of which she had a full and complete recovery.

The first step in the actual examination of any case is to ascertain the acuteness of vision, which in this case I find to be O. D. 20/200 O. S. 20/20. The result of the various objective methods of examination was negative. The ophthalmometer showed only the normal corneal curves; the retinoscope showed the refraction of both eyes to be emmetropic, while the ophthalmoscopic examination revealed nothing abnormal in the affected eye, the fundus in all respects appearing the same as in the good eye.

I will now ask the patient to retire to another room, in order that we may discuss her case more freely, and in her absence I am free to say that I suspect hysteria as the cause of the trouble. I do not wish to accuse the patient of malingering, but I am convinced that the vision of the right eye is better than she thinks it is.

The disturbances of visual sensation which may be caused by hysteria are of so much importance that I feel you, as competent optometrists, should have some knowledge of them.

OCULAR MANIFESTATIONS OF HYSTERIA.

1. There may be partial or total loss of vision: *hysterical amblyopia* or *hysterical amaurosis*. Or painful vision: *hysterical asthenopia*.

2. There may be spasm of accommodation and contraction of the pupil; or paralysis of the ciliary muscle and dilatation of the pupil.

3. Various affection of the lids or muscles, spasmodic or relaxing.

HYSTERICAL AMBLYOPIA.

In this condition there is impairment of the acuteness of vision, with contraction of the field of vision and disturbance of the light and color sense.

The reduced vision is not due to refractive error or to a diseased condition of any part of the organ of vision, nor can it be improved by glasses. The condition has been well expressed somewhat as follows: "The patient sees nothing, nor the optometrist either." All of which is verified in our patient now under consideration.

In hysteria the essential characteristic of the field of vision is concentric contraction. This is best measured by a white test-object on a black background. I will ask that our patient return and be seated at this table, and I will measure her field of vision by the perimeter.

THE USE OF A PERIMETER.

This instrument, with the appearance of which you are all more or less familiar, consists essentially of an arc that can be revolved about an axis passing through its center. The arc is dull black, as you see, and should be broad enough to furnish a background for the test-object, which is nothing more than a white card in a black carrier, which latter has a circular aperture so that the white object can be seen through it.

The patient's head is steadied by the chin-rest, one eye is covered, and the visual axis of the eye under examination is turned directly to a small opening in the center of the arc.

The arc is set in a certain position, say horizontally, and the test-object moved from its extremity slowly towards the center, until the patient becomes conscious of the presence of the small white object.

You will understand, and the patient must be so instructed, that he should not look directly at the object, as he might be tempted to do, but that he must keep his gaze fixed immovably on the center of the arc, which is in the line of direct vision, while the test-object measures the limits of indirect vision.

As soon as the white spot becomes visible, its position is noted on the arc and recorded on the chart as the limit of the field for the horizontal meridian. The arc is then moved to another position, where the trial is again repeated. In this way the outlines of the field in the different meridians is noted, and a line connecting them will show the size and shape of the field.

With this patient, examining the right eye, vision is entirely central in all the meridians. The test-object must be brought up close to the center before it becomes visible. The contraction of the field in this case is extreme, the peripheral circle being just beyond the fixing point.

This contraction of the visual field in hysteria may be of long standing, lasting for months and years, and when recovery occurs the field again assumes its normal size.

The contraction of the visual field bears no relation to the impairment of vision. It is possible, even in extreme contraction, for the acuteness of vision to be nearly normal. The contraction of the field of vision usually occurs in both eyes, although sometimes it is limited to one.

In addition to this symptom, there may be diminution of the light and color sense, and the power of perception of a certain color may be defective.

In spite of the extreme contraction of the visual field that is sometimes present, these patients do not seem to be very much inconvenienced thereby, as is the case when the field is restricted by organic disease of the retina. This has been explained by the suggestion that in the latter case the peripheral impressions fall upon stony and unresponsive ground, and are hence incapable of recognition; while in the hysterical form, while apparently unperceived by the patient, yet they impress the muscular system sufficiently to bring about those unconscious movements which are so necessary to finding our way about.

It is a well-known fact that there may be contraction of the visual field after epileptic attacks, and also amblyopia, which leads us to recognize an analogy between hysteria and epilepsy.

HYSTERICAL AMAUROSIS.

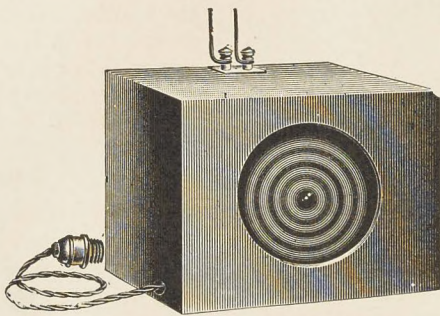
This term is applied to those conditions where there is a complete abeyance of the visual sensation, and it may occur in one or both eyes.

In most cases, while the ability to distinguish forms and colors is lost, the patient still retains subjective sensations of bright light. Women are more often affected than men, the age varying from 15 to 30 years.

In order to establish a diagnosis of hysterical amaurosis, you must exclude disease of any part of the eye or of the visual tract. In the absence of any ophthalmoscopic sign of disease, complete blindness, especially if associated with reaction of the pupil to light, would strongly suggest the possibility of hysteria; but even

(Continued on page 1031)

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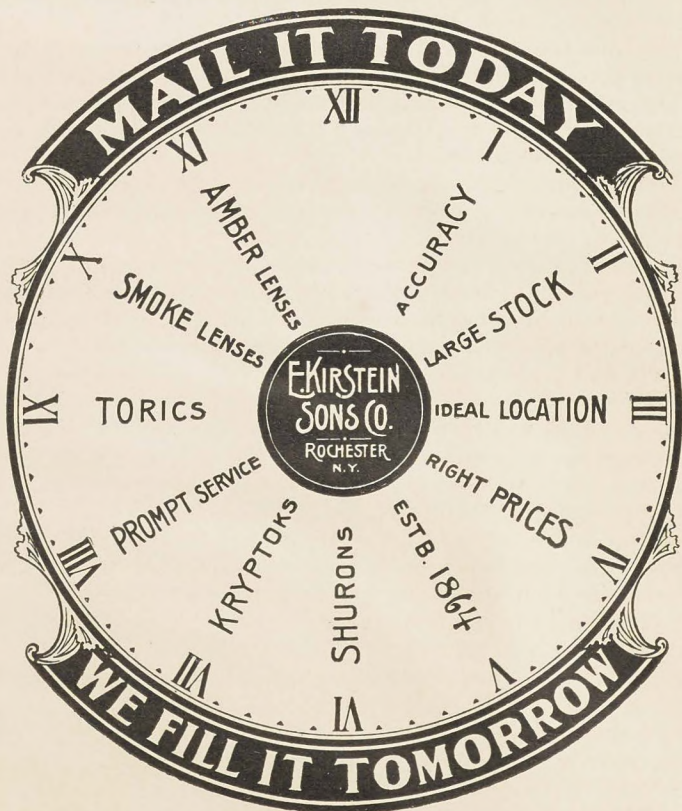
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Clinics in Optometry

(Continued from page 1029)

if the pupils failed to respond to light, hysteria is not necessarily excluded.

The *prognosis* is good, because all the cases on record have recovered their vision sooner or later, the amaurosis disappearing without leaving a trace behind.

The *duration* of the blindness varies considerably. Some transitory forms last from a few hours to a few days; some from a few weeks to a few months, and others more, enduring from months to years. Other cases are recorded where the blindness appears at a certain hour each day, lasts for a while and then disappears. If the blindness came on suddenly, it will likely disappear suddenly; whereas, if it made its appearance gradually, the recovery will likewise be a gradual one.

When the blindness lasts for years, the question naturally arises as to whether it really is of an hysterical nature. But the mere length of time the blindness has lasted does not necessarily prove otherwise.

THE NATURE OF HYSTERICAL AMAUROSIS.

Hysterical blindness is not due to any failure of the retina to appreciate the images of external objects formed upon it, but to a functional disturbance of the brain centers, which prevent their recognition.

HYSTERICAL ASTHENOPIA.

In addition to the impairment of vision more or less complete that may occur in hysteria, there are cases that suffer discomfort of varying degrees, the so-called hysterical asthenopia, the more common symptoms of which are photophobia, lachrymation, spasm of the lids, neuralgic pains, and inability to use eyes for any length of time.

This trouble occurs more frequently among women and is sometimes found among children. Any attempt to use the eyes at close work brings on pain in the eyes and headache, accompanied sometimes with dimness of vision. The photophobia is annoying—so much so, that patients, of their own accord, often resort to smoked glasses, which, of course, afford a certain amount of relief.

HYSTERICAL SPASM OF ACCOMMODATION.

This condition occurs most frequently in young people, and is similar to that produced by eserine. There is a diminution of accommodation at both ends, which brings the punctum proximum and the punctum remotum closer together.

This recession of the near point resembles paralysis of the accommodation, while the approach of the far point resembles myopia. The first would call for a convex sphere, the second for a concave. I have in mind the case of a girl of 16 which illustrates these conditions. Her refraction was really hypermetropic to the extent of 2 D., but during an attack of hysterical spasm of the accommodation her near point receded to twelve inches, which was brought back to normal by a + 2.50 D.; while her far point had approached so much that a - 1.50 D. was required to raise her vision to the normal standard.

These symptoms, then, are characteristic: a weakness or deficiency of accommodation at the near point and an impairment of distant vision or a spasmodic myopia.

The degree of false myopia caused by hysterical spasm of the accommodation varies greatly. Sometimes - 2 D. or - 3 D. will suffice to correct. A remarkable case has been reported of a boy in whom atropine showed the refraction of the eyes to be hypermetropic, right eye + 2 D. and left eye + 1.50 D. Under an hysterical spasm of accommodation - 24 D. was required for right eye and - 22 D. for left.

HYSTERICAL PARALYSIS OF ACCOMMODATION.

This condition, which is known as *cycloplegia*, is not so common as spasm of the accommodation. It is, however, not unusual to find in young hysterics some impairment of accommodation, so that patient is unable to read fine print at the customary distance except by the aid of convex spheres.

As I have already stated, this can not be actual paralysis of

the ciliary muscle, because, while there is a recession of the near point, there is at the same time an approach of the far point, which latter is not consistent with a paralysis of the ciliary muscle.

In hysterical cycloplegia, the pupils are usually of the normal size, but in exceptional cases mydriasis occurs in connection with it.

HYSTERICAL CHANGES IN THE PUPIL.

In hysteria, the pupil may be contracted or dilated, or it may vary from one to the other.

Contraction of the pupil is a rare symptom of hysteria, but mydriasis is more often heard of, which may or may not be associated with cycloplegia. Mydriasis occurs with amaurosis, and when the sight is restored, the pupil regains its natural size. If the pupil fails to react to light, we assume that the mydriasis is paralytic; otherwise it may be due to spasm of the dilator muscle.

DISTURBANCES OF THE LID AND MUSCLE MOVEMENTS.

Spasm of the lids often occurs in hysteria, and is characterized by a continual blinking, or in extreme cases, by a convulsive closure of the eye. In the latter case, the spasm is apt to be more marked upon one side than the other and may involve the neighboring muscles of the face and neck. If an effort is made to raise the lids by means of the finger, one can notice a definite resistance. The patient is unable to open the eye by the strongest effort of his volition.

There are two varieties of spasm of the lids, painful and painless. The former is accompanied by lachrymation and photophobia, while in the latter the conjunctiva and cornea may be insensitive.

Ptosis may occur, due not so much to paralysis of the levator as to spasm of the palpebral portion of the orbicularis.

DISTURBANCES OF CONVERGENCE.

Owing to the intimate relation existing between accommodation and convergence, there is likely to be *insufficiency of convergence* in connection with an impaired accommodation. In hysteria, as is the case with the accommodation, the amplitude of convergence is lessened from both ends; the near point of convergence recedes while the far point comes closer. There is marked exophoria in accommodation, as determined by the usual tests.

The insufficiency of convergence may be so extreme that the convergence near point is moved a metre or two away, and for all objects closer than this a crossed diplopia becomes evident.

Then, again, there may be a *spasm of convergence*, showing itself by a homonymous diplopia when the eyes are fixed upon a distant point. As the test-object is approached a point is reached where single vision is restored; and within this limit diplopia again makes its appearance, this time of the crossed variety.

The spasm of convergence may be so extreme as to result in convergent strabismus, usually associated with spasm of accommodation, and perhaps blepharospasm.

HYSTERICAL NYSTAGMUS.

Nystagmus may occur in hysteria, but not commonly.

DISTURBANCES OF SENSATION.

In hysteria, the conjunctiva and cornea may be insensitive, as a result of which the *palpebral reflex* is lost.

Spots that are sensitive to pressure in the neighborhood of the eyes occur in hysteria along the inferior orbital border.

Excessive lachrymation, paroxysmal in nature, occurs frequently in hysterical patients.

Sometimes hysterical patients purposely bring irritating substances in contact with their eyes to cause evidence of inflammation and thus excite sympathy, and they have even gone so far as to scratch their corneas with pins. Some hysterical girls have been known to pull out all their eyelashes.

I think I have said enough to-day to give you food for thought. Perhaps some mysterious and troublesome cases may occur to your mind which seemed beyond explanation at the time, but in the light of what I have said to-day were probably of an hysterical nature. At any rate, you will be on your guard, and you will be able to recognize these cases when you meet them hereafter. As our time has expired for to-day, I will have to postpone further remarks on this subject, including treatment, until our next clinic.

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To enable us to answer questions satisfactorily and give proper advice in the management of cases submitted to us, it is essential that we be furnished with a complete history of each case and accurate information on the following points:

1. Age. (If not possible to give exact age, always approximate).
2. Have glasses been previously worn? How long and what number?
3. Visual acuteness of each eye, and what improvement glasses afford.
4. Range of accommodation (without glasses and with them).
5. Evidence of astigmatism (as shown by radiating lines).
6. Test for muscular insufficiency.

"C. F. K."—*Can you give me any beneficial information in the following case? Married lady. Age 29. Complaints of weak eyes and headaches on reading or near work. She has tried to get benefit by patronizing traveling spex vendors, but no good. Has now plus .50 over each eye, which are no better than none. On examination I find Visual acuity, each eye separately 6/6 fair, with minus .25 sph. 6/6 good. Range of accom. 3 diopters. No evidence of astigmatism, by radiating lines without glasses, nor with any spherical lens I can place. Tested muscles with Maddox rod and also Maddox double prism, and found muscular balance good in all ways. Now on account of only 3 diopters of accommodation I suspected latent hypermetropia, and tried fogging to bring it out, but without success. I feel sure it is latent hypermetropia which should be brought out, or a weakness of the Ciliary muscles which could be improved by exercise of the accommodation. I do not want to use mydriatics, and any information you can give, will be thankfully received.*

The condition of the eyes and the symptoms of which patient complains, would indicate the possibility of hypermetropia or astigmatism. Our correspondent says there is no evidence of astigmatism by the radiating lines, but this is by no means an infallible test, nor should it be relied on because the astigmatism if hypermetropic may be masked by the accommodation. The better way would be to resort again to the fogging system, and as the eyes are being brought out of the fog to use the radiating lines, or a concave cylinder the action of which is to be compared with that of a concave sphere in reducing the fog and improving vision. For instance after the vision has been brought up to about $\frac{2}{3}$, then a —.50 sphere and a —.50 cylinder (the latter being rotated through the various meridians) should be tried alternately, and in this way if astigmatism is present it can usually be detected. If careful testing positively shows no astigmatism or hypermetropia, we may assume it is a case of subnormal accommodation and prescribe convex glasses for close use.

"J. E. A."—*Gentleman, age fifty-two years, merchant. Has worn blue-tinted + 3.25 sph. for five years, but they are too weak to read with now. I tested eyes and find vision $\frac{2}{3}$ both eyes. R. V. + 2.75 sph. = $\frac{2}{3}$. L. V. + 2.75 = $\frac{2}{3}$. For reading I gave him 4.50 sph. Could read the finest print on test card with either eye (clear glass), but after wearing them twenty to thirty minutes they begin to draw and make eyes burn and ache, when he has to take them off. Why cannot he wear these glasses and what must I do? Full particulars of this case will be highly appreciated. No muscle imbalance or disease of eyes.*

In the first place we would say that this man should have two pairs of glasses so that his eyes would never be without them. If he has 2.75 D. of hypermetropia he should have glasses of this strength for distance and constant wear. This will relieve his eyes of the strain of overcoming the hypermetropia and thus tend to strengthen them. Under such circumstances his eyes will be better and fresher when he comes to read.

It is impossible to say with positiveness just what the trouble is with his reading glasses. They may be a little too strong or they may be a trifle

too weak. As we have no record of the near point or the amplitude of accommodation, we cannot decide this point.

Or they may not be properly centered. If the frames are too wide or the optical centers wider than the pupillary distance, the glasses would show a prismatic effect with the bases of the prisms outward, which would be a direct tax upon the convergence and thus tend to produce asthenopic symptoms.

Or perhaps there may be a distinct weakness of convergence, an insufficiency of the internal recti muscles, the so-called exophoria in accommodation. In such a case prisms may need to be combined with the lenses, bases in, a 1°, 2° or 3°, as the case may need, and this may be what is necessary to make the reading glasses comfortable. Or perhaps the patient does not look through the glasses at the right angle. If the plane of the glasses is perfectly vertical and the patient turns his eyes downward, he looks obliquely through the lenses and gets the effect of a cylinder with axis horizontal, which may be the cause of the discomfort. At any rate it would be wise to tilt the glasses a little so that the visual lines may be more nearly at right angles to the lenses.

In order that a correct and definite understanding may be had of each case submitted, it is necessary that correspondents should give ALL the particulars asked for at the head of this page

"W. J. P."—*Your reply received and noted. Will say in regard to same that I went through with the examination with the ophthalmoscope and found some little opacities in the vitreous humor. I tried a .50 D. X. cyl. axis 15° and a plano on R. E. which she said rested her eyes some. I made this examination about ten days later than the first examination. I enclose letter which she has written herself by my request, exactly stating her condition and you can print what you think necessary.*

The following is the letter referred to by our correspondent: "Having been shown your answer in regard to the affection of my eyes, as shown by Mr. Prater, he asked me to write myself in regard to this affection, as I can explain or state conditions more fully than he. Have been wearing just plain, natural glasses awhile but with no benefit therefrom. Am now trying a pair he had made to order and see no difference. These floating spots have troubled me for more than a year. It began when I was practicing hard at music, also when I had indigestion very badly. The spots vary in size, sometimes the size of a quarter note in music, then as large as a very small pea—sometimes black, sometimes brown and sometimes can see (only from the left eye) numbers of white specks, lines, etc.; especially when writing on a white or blank surface they appear oftener, but now I can see one spot floating before the eye at all times except at night, and varying in size at different times. It is before me constantly and is annoying. Will say my general health is good except poor circulation, slight catarrh and indigestion. My appetite is good, sleep well and am not nervous. I am inclined to agree with you about the cause of spots. I believe they are caused by stomach or liver trouble and I intend to undergo a physical examination before long. Now, if the glasses do not help this the spots are no indication that I am straining my eyes or that they are affected, are they? I am writing all day long in a probate's office and that is where they annoy me while writing as they are seen best on the white surface. My eyesight seems perfect. Am I hurting or straining this eye to write all day and read at night too? It only troubles me in the daylight. That is the peculiar thing about it and would you kindly state the reason for that? Now, if you think from what I have written there is any defect of the eye that could be remedied by a lens, would appreciate it very much if you would suggest the kind of lens and Mr. Prater will order it for me. He says he discovered several opacities or spots in the eye on examination, but I am very much of the idea that it is caused by my physical health."

As we stated in our previous answer the presence of vitreous opacities that could be detected

by the ophthalmoscope, is scarcely compatible with a vision as in this case that is better than normal. Such a vision contra-indicates organic disease of the eye but not refractive error. There may be hypermetropia existing in a more or less latent form, or there may be slight hypermetropic astigmatism or heterophoria. The burden is then placed on our correspondent, either to detect any of these anomalies or to disprove their presence. He is doubtless familiar with the various tests for these conditions and how to apply them. If no errors are found, or if any that are found are properly corrected, then the optometrist has exhausted his resources, and any further treatment should be directed by a physician. The patient should be advised to keep her mind off her eyes and as far as possible to ignore or forget these spots.

"J. E. A."—*Lady, married, age forty-four. Has worn glasses for more than a year, +.75 cyl. axis vertical both eyes, but complains with eyes burning, sand in them, stiff and finally fills with water when she lays her work or reading down. I tested eyes and find vision $\frac{2}{3}$ both eyes. R. V. — 1 sph. — .37 cyl. axis 180° = $\frac{2}{3}$; L. V. — .75 sph. — .50 cyl. axis 180° = $\frac{2}{3}$. But cannot see nearer than four feet with these glasses, but with R. V. + 1.25 sph. + .50 cyl. axis 90°, and L. V. + .75 sph. + .50 cyl. axis 90° can read the finest print of test card at fifteen inches with either eye, but cannot read at twenty-five inches. I tested for muscle imbalance and find a little divergence. A 2° prism corrects this. What is the trouble with these eyes? What puzzles me is, its taking — glasses for distance and + for reading. What is the best glasses to prescribe? Has never had any disease of the eyes.*

There is nothing unusual in a case taking concave lenses for distance and convex for reading; it all depends on the amount of defect and the age of patient.

In the consideration of this case we are inclined to think that the concave spherocylindrical combination is too strong. This is the danger into which the inexperienced optometrist is apt to fall. In fact not only is he likely to get his concaves too strong, but he goes a step farther in the wrong direction and gets concave when it ought to be convex. This occurs not only in hypermetropia, where concave spheres are sometimes given, but also in hypermetropic astigmatism, where concave cylinders are prescribed. This is due to spasm of accommodation which overcorrects the hypermetropia and makes it apparent or false myopia. In astigmatism the accommodation neutralizes the hypermetropia in the defective meridian and at the same time and in the same way makes the emmetropic meridian myopic. Hence, unless one is on his guard for just such a contingency, it is very easy to have concave cylinders accepted in hypermetropic astigmatism.

In the examination of this case convex cylinders should be tried first and every effort made to have them accepted. If they are partially accepted then a concave cylinder at right angles or a concave sphere over the convex cylinder may be tried in order to retain as much of the convex element as possible in connection with the concave, and not that the former should be entirely supplanted by the latter.

These tests then determine the refraction, after which another test must be made for near vision, as this patient has arrived at an age when presbyopia is beginning to manifest itself, calling for a different glass to assist the accommodation.

The Eyes of School Children

The attention now being given to the eyes of school children will mean an immediate and very material expansion in the business of the optician. When all children who have visual defects are professionally informed as to their condition in their early school days the number of spectacle wearers will be greatly increased. It is said that in New York City alone no less than 36,000 school children have defective vision, and the question of furnishing glasses at the public expense to such as cannot procure them is now being agitated. Many opticians are finding charity of this kind a good advertisement.



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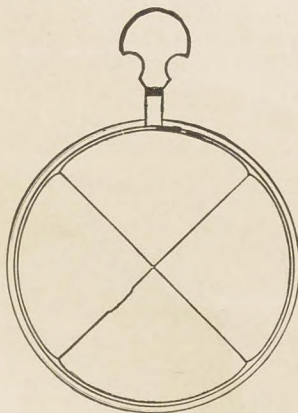
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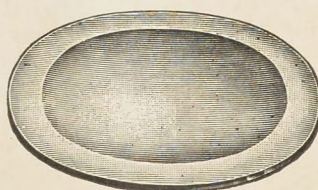
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Light: Polarization, Phosphorescence, Fluorescence

By HOWARD D. MINCHIN, Ph.D.,
Professor of Physics, University of Rochester, before the
Rochester Optical Society.

Lecture IV

Up to this point we have regarded light as a form of energy, and this energy we have considered as being conveyed by the ether. We will now briefly consider the nature of the ether vibrations. If a string be plucked so as to vibrate, say horizontally, the entire excursions of its vibrating parts will be in a horizontal plane, and the motion will be linear and simple harmonic. A card having cut in it a narrow slit a little wider than the string and longer than the amplitude of the string's vibration, may be passed over the string with the slit horizontal and no disturbance of the motion of the string is brought about.

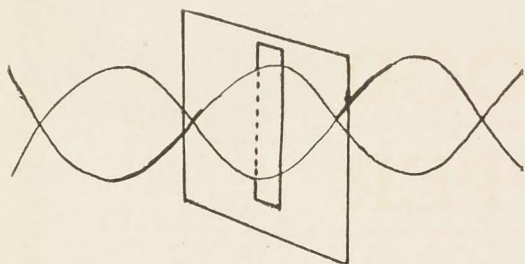


Fig. 1

If the slit be rotated 90° , the vibration will be damped or extinguished.

In a string vibrating transversely, we are able to distinguish its sides. If we imagine two such strings vibrating, in planes at right angles to each other, we will see that the slit will damp the one set while allowing the other freedom of action.

If, now, we can show that a beam of light behaves in a way similar to the above case, we would be able to conclude something about the existing mode of vibration.

Let A_1 and A_2 be two plane mirrors equally inclined to the horizon, and let a beam of light, S , be incident on A_1 . Arrange a screen x to receive the light reflected by A_2 . The intensity of this reflected light varies in brightness as A_2 is rotated about a vertical axis. The brightness will be a maximum when the normals to A_1 and A_2 lie in the same planes, and least when they lie in perpendicular planes.

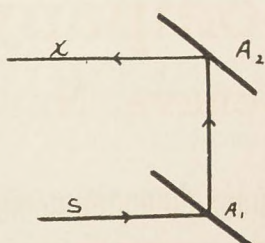


Fig. 2

This brightness depends upon the angle of incidence. If this angle is $57\frac{1}{2}^\circ$, then no light will be reflected from A_2 when the normals are in planes perpendicular to each other.

This experiment proves that when light consists of waves in which the displacements are confined to a certain definite direction at right angles to the ray.

If, now, we let a beam of light fall perpendicularly upon a slice of tourmaline, cut parallel to the crystallographic axis, part of the light will pass through, and with most specimens of tourmaline the light will have a greenish color, owing to selective absorption in the crystal. The light will, in other respects, appear to the eye unaltered and of undiminished intensity when the plate is

rotated. If, now, this beam of light is passed through a second slice of tourmaline with its axis parallel to the first plate, the light will be unaffected beyond a slight darkening of the greenish tint and a very slight decrease in intensity. If the second plate is rotated around an axis parallel to the light, the intensity of the transmitted light will gradually diminish. When the two plates are at right angles, the light will be completely extinguished.

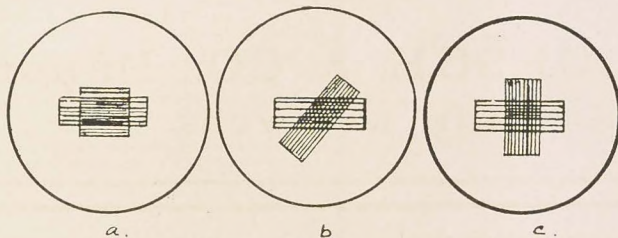


Fig. 3

The phenomenon here referred to is called polarization. With one slice of tourmaline the displacement in the transmitted waves is confined to one direction; when passed through a second the displacement is completely destroyed. In the first experiment we had one displacement eliminated by reflection.

Light may also be polarized by refraction, ordinary and double; and by scattering produced by small particles. This latter can be shown as follows:

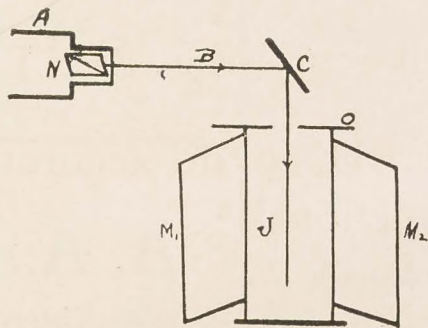


Fig. 4

J is a jar of water into which is put a solution of gum mastic in alcohol. B is a beam of light from the lantern A passed through the Nicol prism N . It is reflected into the jar J through the opening O by the plane mirror C . The mirrors M_1 and M_2 are adjusted to enclose the jar in an angle of about 100° , and we get by reflection two images of the jar. This enables the audience to receive perfectly polarized light. If we now cover the opening in O with a large quartz plate and rotate the analyzer N , we will get a series of colors in J .

The Nicol prism here used is made from Iceland spar, which substance possesses the char-

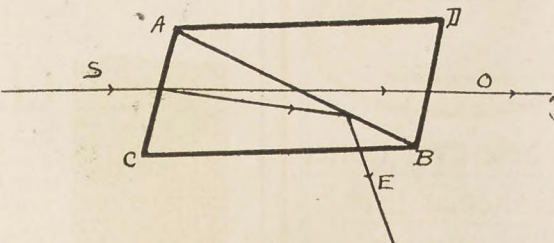


Fig. 5

acteristic of breaking up into two parts a beam of light passing through it. The index of refraction of these two beams is 1.48 and 1.65, respectively. A crystal of Iceland spar three times as

long as its diameter is cut along the line AB , which line is perpendicular to the principal plane for the face AC . It is then cemented together by Canada balsam, which has an index of refraction of 1.55. If a beam of light, S , enters the prism, the ray O passes through, and the ray E is reflected to one side and is thus eliminated. This prism polarizes all colors of light, and it is free from color, and therefore affords an excellent analyzer.

Certain substances possess the power of rotating the plane of polarization. Some of these are quartz, turpentine and cane-sugar. The amount of rotation is definite and constant for each substance. The angle of rotation depends upon the thickness and density of the substance used. The Laurent Saccharimeter is an instrument which makes use of this phenomenon to determine the amount of cane-sugar in a given solution.

If a solution of chlorophyll is placed in a dark room and a beam of white light is allowed to fall upon it, the portions of the solution on which the light first falls become luminous, emitting in all directions a red light. This phenomenon is called fluorescence. The fluorescence is most brilliant at the surface of incidence of the white light. The brilliancy gradually decreases with the thickness of the solution through which the light passes. Fluorescence is also exhibited by paraffine oil, solutions of quinine, and by some of the aniline dyes, such as eosin.

Fluorescence only occurs with some kinds of light. If a test tube containing a solution of sulphate of quinine is held in different parts of the spectrum, it presents quite a different appearance in some parts from that shown by a test tube of water. In the red the quinine shows red; in the yellow and green it looks yellow and green, respectively; in the blue and violet it begins to show the pale blue fluorescent color which it exhibits in white light. This fluorescence increases toward the violet end of the spectrum, and it may be seen in the ultra-violet.

Analysis shows us that the light emitted by a fluorescent body is not monochromatic. The wave length of the colors emitted is always greater than the wave length of the light which causes the fluorescence. If a beam of sunlight is passed through a solution of sulphate of quinine, it will not seem to the eye to be reduced in intensity, but it will be found to have lost its ultra-violet rays. These have been converted into blue and violet rays by the solution.

The mapping of the solar spectrum has been furthered by use of fluorescence.

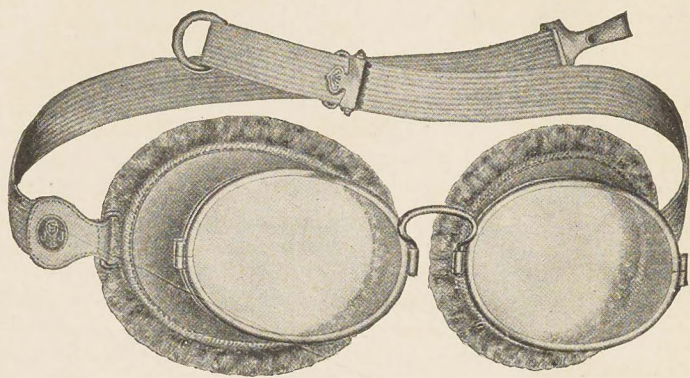
In fluorescent bodies, the fluorescence ceases when the incident light is cut off. Some substances continue to emit light after the incident light has been cut off. After an exposure to light they shine in the dark. The sulphides of calcium, barium and strontium are among such. This phenomenon is called phosphorescence. Phosphorescence lasts such a short time in many bodies that its detection is difficult. In some cases we find a body will absorb certain radiations of one wave length and emit a wave length that is shorter. This is called calorescence. Tyndall showed this by focusing the infra-red rays from an electric arc on a strip of platinum foil. The platinum became heated to incandescence and emitted visible radiation.

When light is absorbed by a body, the energy of the absorbed radiation is taken up by the body.

(Continued on page 1037)

J. F. & B.

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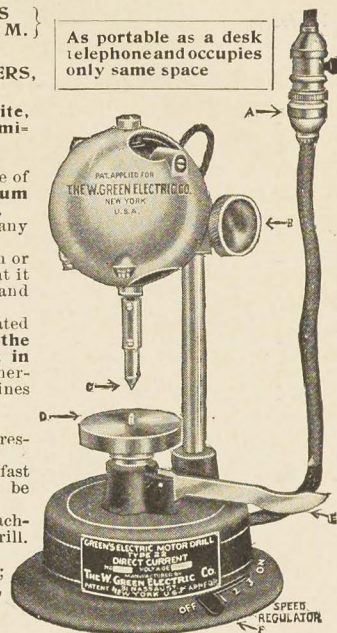
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Light: Polarization, Phosphorescence, Fluorescence

(Continued from page 1035)

This energy may warm the body or it may produce fluorescence or phosphorescence. A third way in which it may be used up is in doing chemical work. A mixture of chlorine and hydrogen, if kept in the dark, may be preserved indefinitely, but if exposed to the sunlight, combination results.

Under the influence of light, silver chloride is changed chemically, and this is made use of in photography.

Chemical change is not produced to the same extent by light of all colors.

The curve in the figure represents the chemical activity of the solar spectrum. The exact position of the maximum depends, to some extent,

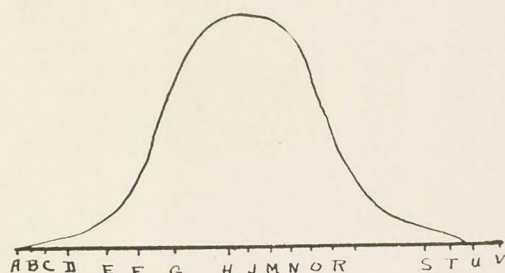


Fig. 6

upon the nature of the change produced. It will be necessary to use a quartz prism to produce the spectrum, as glass absorbs the ultra-violet rays.

In the recent study of the conductivity of electricity by gases many very interesting phenomena have been observed. Of these, we will mention a few of the most prominent.

It has been found that when a tube is exhausted below a thousandth of a millimeter of mercury and electricity is passed through it, that the positive column gradually vanishes and the sides of the tube give a brilliant phosphorescent glow. The appearance is as if something were projected by the cathode in the direction normal to its surface. This something has been called the cathode rays. Lenard found that these rays consisted apparently of two kinds of rays possessing different characteristics, and the name "Lenard rays" has been applied to the one set.

When the cathode rays strike upon matter, they produce phosphorescence and raise the temperature of the body, and in some cases cause the emission of cathode rays. They also produce a second kind of rays. These were first discovered by Roentgen, and are called "Roentgen rays," or X-rays. They pass through glass and many other materials without suffering much absorption. In this respect they differ from cathode rays. Their presence may be detected by the photographic plate or by the fluorescence they excite in certain substances. They penetrate many substances opaque to light, such as black paper, wood and aluminum.

Shortly after Roentgen's discovery, Becquerel discovered that uranium and also all of its salts emit rays that are able to pass through black paper or a thin glass and affect a photographic plate. They possess a property of discharging both positive and negative electricity. Their action, while similar to that of Roentgen rays, is much more feeble. This power of a body to give out rays which ionise a gas is called radio-activity. Radium, thorium and actinium are radio-active bodies.

Opticians Celebrate Success of the Optometry Bill

On receipt of the news that Governor Hughes had signed the New York optometry bill, Alex. Martin, the well-known optician, of Philadelphia, New York, Brooklyn and Buffalo, invited a number of his brother opticians who were prominent in the struggle to join him at dinner at the Cafe des Beaux Arts, Sixth Avenue and Fortieth Street, New York, to celebrate the triumph. Those present included, besides Mr. Martin, A. Jay Cross, W. T. Georgen, J. J. Mackeown, P. A. Dilworth, F. B. Marchant, A. Cohen, E. Le Roy Ryer, F. A. McGill and R. M. Lockwood. It was a truly happy occasion, as all the guests were overjoyed at the triumph of their cause. Brief speeches were made by a number of the guests, in the course of which the history of the struggle was reviewed and glances taken into the future.

Georgia Optical Association

The fifth annual meeting of the above association will be held at the Piedmont Hotel, Atlanta, on June 8th. In addition to the business proper of the meeting, the programme comprises a large number of papers and addresses by persons of prominence in the profession. H. J. Cook, Knoxville, president of the Tennessee Optical Society, will deliver an address on "State Regulation of Optometry." Chas. H. Kittrell, of Dublin, vice-president of the Georgia association, will speak on "The Future of Optometry." The scientific addresses will include "Trial Case Tests," by Henry J. Godin of Augusta; "Making of Lenses and Prescription Writing," by John L. Moore, Atlanta; "Frame Fitting," by J. H. Spratling, of Macon; "Symptoms of Dangerous Diseases," by C. E. Folsom, of Atlanta, and "Clear Vision," by M. B. Clason, of Columbus. All the opticians of the State who can afford the time are earnestly urged to attend this convention and become members of the association.

The Tennessee Optical Society

The members of this association will hold their annual meeting on July 7th and 8th in Chattanooga, in connection with the annual meeting of the jewelers' association. The members of the trade in Chattanooga are preparing an attractive programme of entertainment for the visitors, and a large attendance is expected. Those coming from a distance will find an extra inducement in the reduced railroad rates then available. Among the prominent speakers at the meeting will be Dr. S. W. Lane, of Kansas City, C. E. Folsom and John L. Moore, of Atlanta, Ga.

Wholesale Opticians Meet

The annual meeting of the Wholesale Optical Association was held in New York on May 26th. Nearly the full membership was represented at the meeting. The election of officers resulted as follows: President, J. B. White, of the White-Haines Optical Co., Columbus, Ohio; vice-president, Andrew V. Brown, of D. V. Brown, Philadelphia; secretary and treasurer, R. C. Thompson, of the Globe Optical Co., Boston; directors: Fred. H. Smith, of Geneva Optical Co., Chicago; F. C. Bass, of the New York office of F. A. Hardy & Co., Chicago, and Fred C. Merry, of the Merry Optical Co., Kansas City, Mo.

The meeting closed with a dinner given in one

of the private dining-rooms of the Cafe Martin. It was gotten up much like the large trade dinners, with souvenirs, song books and musical numbers. The souvenirs were spoons of New York City, showing the Statue of Liberty and other local points of interest. A number of informal talks were made at the dinner, the attendance at which was restricted solely to members of the association. Leo Wormser of the Julius King Optical Co., made the arrangements for the dinner was complimented on its success.

Arizona Optical Society

An optical society was recently organized in Arizona, the meeting being held at Phenix. Wm. E. Huston, organizer of the national association, was present on the occasion and infused much life into the new organization. The following officers were elected: President, Ernest Munson, of Phenix; vice-president, Harry Friedman, of Phenix; secretary, Ernest Trautman, of Yuma, and treasurer, F. Lamont, of Tempe. The initial meeting was very successful, resulting in a charter membership of forty-three.

Rhode Island Society of Optometry

The regular monthly meeting of the Rhode Island Society of Optometry was held on Monday, May 11th, in Prescott Post Hall, Providence, with Second Vice-President H. W. Cunningham in the chair. The usual routine business was transacted, after which Mr. Bronson, of the Globe Optical Co., Boston, Mass., was introduced and gave an interesting talk and demonstration of the C.-I. ophthalmometer, also a talk on the history and manufacture of artificial eyes. A vote of thanks was extended to Mr. Bronson for his kindness and also for the able manner in which he conducted the demonstration.

Remarks were made by several of the members present, after which the meeting adjourned until the second Monday in June.

New England Association of Opticians and Massachusetts Optical Society

A meeting of the New England Association of Opticians was held in Boston on May 18th and officers were elected for the ensuing year, as follows: President, E. M. Parks, Boston, Mass.; first vice-president, W. E. Wright, Keene, N. H.; second vice-president, N. T. Worthly, Jr., Portland, Maine; treasurer, W. E. Whitcomb, Boston; secretary, Miss Florence Marshea, Cambridge, Mass. Executive committee: F. W. Putman, Newport, R. I.; W. H. Watkins, Somerville, Mass.; W. L. Bemis Brockton, Mass.; E. F. Robinson, Ellsworth, Maine, and F. R. Vaughan, Brattleboro, Vt.

A meeting of the Massachusetts Optical Society was held at the same time and same place. The election of officers for the society for the ensuing year resulted as follows: President, F. P. Simmons, Boston, Mass.; first vice-president, Howard C. Doane, Boston; second vice-president, S. C. Scantlebury, Springfield, Mass.; treasurer, W. P. Bullard, Boston, and secretary, Geo. A. Barron, Boston. Executive committee, I. A. Brown, New Bedford; S. W. Baker, Rockland; A. A. Carter, Boston; C. R. Padelford, Fall River; W. W. Slade, Boston.

The above societies decided to hold meetings in Philadelphia on the occasion of the convention of the national association in that city. The meetings will be held on what is known as States Day, August 10th.

President F. P. Simmons was named as representative of the Massachusetts Optical Society at the nation convention at Philadelphia and A. A. Carter as alternate.

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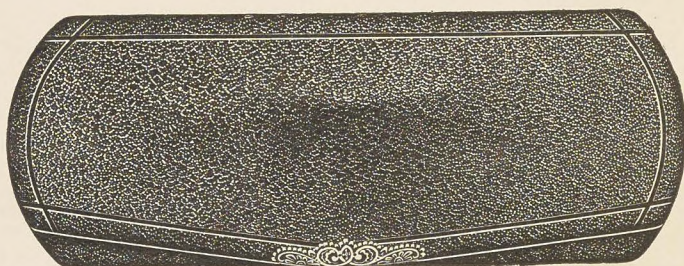
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It is unequaled, unap-
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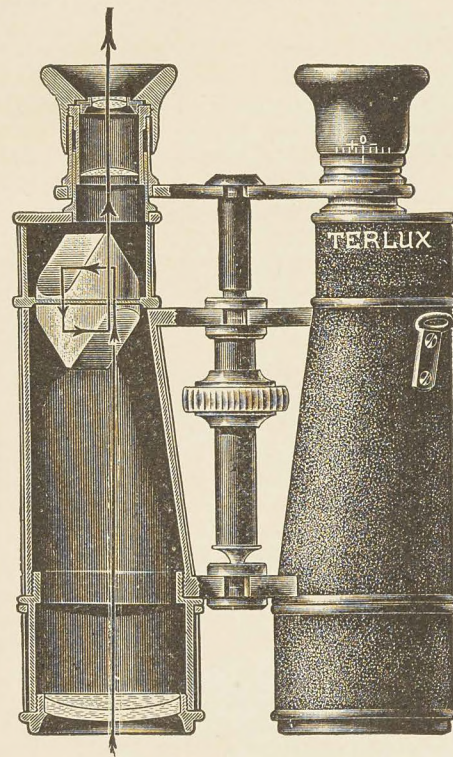
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WILL EXHIBIT AT CONVENTION

Pennsylvania Optical Society

The Pennsylvania Optical Society will hold its next annual examination for the dioptrician grade in Philadelphia at 10 A.M. on Tuesday, August 11th, 1908, just before the opening of the annual convention of the American Association of Opticians which meets at the same place.

Only members of the State association can take this examination and obtain the certificate which is awarded those who successfully pass it, but any Pennsylvania optician who applies for membership in the association at once can be admitted in time to take the examination.

Applicants will be examined in the theory of optics, refraction, the practical use of the trial case and frame fitting, and the examination will be both written and oral. There is no entrance fee for this examination, but all who pass it will receive a diploma on payment of five dollars. For the protection of the holders of these certificates they remain the property of the association, and when a member dies or leaves the society his certificate is returned to the secretary.

It is desired that as many of the members as possible shall take this examination, as it is a great incentive to study and tends to raise the grade and tone of our membership. The certificate, which is very handsomely engraved, besides being a voucher for the proficiency of the holder, will show to the public that he has the endorsement of the State Optical Association.

A. A. O. Convention Notes

The exhibit committee have already received application for almost all the spaces in the exhibit hall. Their plans provide for the most elaborate and the handsomest exhibit yet held at any optical or jewelry convention in this country. All the booths and decorations will be uniform throughout. The following firms have been assigned space:

Aikin-Lambert Co., New York City.
American Thermo-Ware Co., New York City.
Bay State Optical Co., Attleboro, Mass.
S. O. Bigney & Co., Attleboro, Mass.
D. V. Brown, Philadelphia.
Edward Beckwith, New York City.
De Zeng Standard Optical Instrument Co., Philadelphia.
Ely Eyeglass Mfg. Co., Middletown, Conn.
Farrington Mfg. Co., Roxbury, Mass.
Globe Optical Co., Boston, Mass.
Hub Optical Case Co., East Dedham, Mass.
S. H. Highsmith Co., Sumpter, N. C.
H. G. Kirby & Co., Willimantic Co., Conn.
E. Kirstein & Sons Co., Rochester, N. Y.
THE KEYSTONE, Philadelphia.
Julius King Optical Co., New York and Chicago.
The Kryptok Co., New York City.
McIntire, Magee & Brown Co., Philadelphia.
Muir Eye Remedy Co., Chicago.
Northern Illinois College of Ophthalmology, Chicago.
New York Institute of Optometry, New York City.
Optical Journal, New York City.
Optical Review, New York City.
Pollock & Michael, New York City.
Randall-Faichney Co., Boston, Mass.
Stead Lens Co., Kansas City, Mo.
Standard Optical Co., Geneva, N. Y.
Stevens & Co., Providence, R. I.
Warner & Swasey Co., Cleveland, Ohio.
J. E. Waterman Co., New York City.
Michael Woolf, New York City.

The firms who are desirous of obtaining space should put in their applications promptly, as the committee only have several available spaces left.

The new official emblem fob placed on the market for members is proving popular, as evidenced by the demand even without any particular advertising. The design consists of the official insignia with the words American Association of Opticians encircling. The enamel button is one and one-quarter inches in diameter, in blue and gold, mounted on finest leather, four and one-half inches long with a polished gold-plated buckle.

The new official button in enamel and gold, and somewhat smaller than the first button, is now also ready for members. The price of either

button or fob is one dollar and they may be secured from the secretary.

The Physiological Section reports progress in the matter of the scientific programme for the Philadelphia meeting, while Secretary Huston announces the appearance of four speakers of known ability for "A. A. O. Day," which will be a new feature of this year's programme.

The month just gone has proven a memorable one in the history of organization and affiliation in the United States, in that it has brought to completion work in the West, every State and Territory west of New York, with but a single exception, now being organized and affiliated with the American Association. It is rather a coincidence that



Official A. A. O. emblem fob

the two States of the extreme East and West, Maine and California, should both fall into line simultaneously and within two weeks of each other, as was the case last month.

It is not yet definitely known whether the railroads are to grant rates for the Philadelphia meeting, but as summer rates are on at this period it will make but little difference to those wishing to attend.

A. Martin, of Philadelphia, has been selected by the local Philadelphia committee to give the address of welcome at the Philadelphia meeting, to which Thomas Gowenlock, of Kansas, will respond on behalf of the American Association.

New York State Optical Society

The executive committee have decided to hold the twelfth annual convention of the Optical Society of the State of New York in New York City, Monday, June 22d.

This undoubtedly will be the largest attended convention in the history of the society, as Governor Hughes' signature placing optometry upon the statute books of the State brings matters of great and vital importance before the society for consideration.

Every optometrist of the State, whether a member of the society or not, should be present.

It would seem that every optometrist in this State should now become a member of the State society if he is not one already.

There will be excursion rates at this time, full particulars of which will be furnished later.

Utica, N. Y., Optical Society

The seventh annual meeting and election of officers of the Utica Optical Society was held on May 19th, in the Masonic Temple, that city. The reports of committees and retiring officers were submitted and showed the society to be in a very prosperous condition both in point of numbers and finances. Business of interest to optometrists was transacted and much attention was given to the optometry bill which was signed by the governor a few days later. The election of officers resulted as follows: President, A. M. Kenney; vice-president, B. Thomas Clark; secretary, C. A. Enquest; treasurer, N. A. Burrell; member of executive committee in addition to the above, Richard Perlen.

Mississippi Optical Society

The annual meeting of the above society was held at the Edward House, Jackson, on May 26th and 27th. The first day was devoted to the presentation of reports and the transaction of routine business. The programme for the second day was of a technical character and papers were announced as follows: "Optical Legislation," E. R. von Seutter; "Why do Low Errors of Refraction Produce More Disturbances Than Large Ones?" L. M. Guess; "Some Forms of Diseases the Optometrist Should Know," F. W. Queen; "Should an Optometrist Charge a Fee for Examination?" T. A. Mauch; "Fitting Presbyopes," R. W. Simpson; "Is the Fitting of Prisms Advisable, if so, When?" Byron Mitchell; "Shall We Increase the Membership of Our Society, or the Quality of Our Members?" M. E. Fritz; "How Can We Make This Society of More Value to Ourselves and the Public?" T. P. Martin.

Itinerant Opticians and the Law

The officers of the Dallas Optical Society direct the attention of the opticians of that State to the following opinion in regard to itinerant opticians officially given them by the assistant attorney-general of the State.

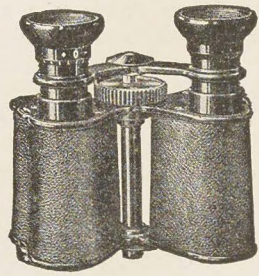
DEAR SIR:—Replying to yours of the 29th ult., you are advised that under the provisions of chapter 35, acts of the 30th legislature, itinerant oculists or medical or other specialists traveling from place to place in the practice of their profession are required to pay to the State an annual occupation tax of \$50.00. Each county in which said specialists practice their profession is also authorized to levy a tax equal to one-half of the above amount. In our opinion "Refractionists" are specialists within the meaning of the statute above referred to, and therefore embraced within the provisions of said act.

Yours very truly,

JAS. D. WALTHALL.

Office Assistant Attorney General.

The officers of the society state that the enforcement of this law will practically put the illegitimate opticians out of business in Texas and will keep out of the State such as are driven from neighboring States. As the opticians of many other States have a similar grievance the attorney general's letter will possibly suggest to them a remedy.



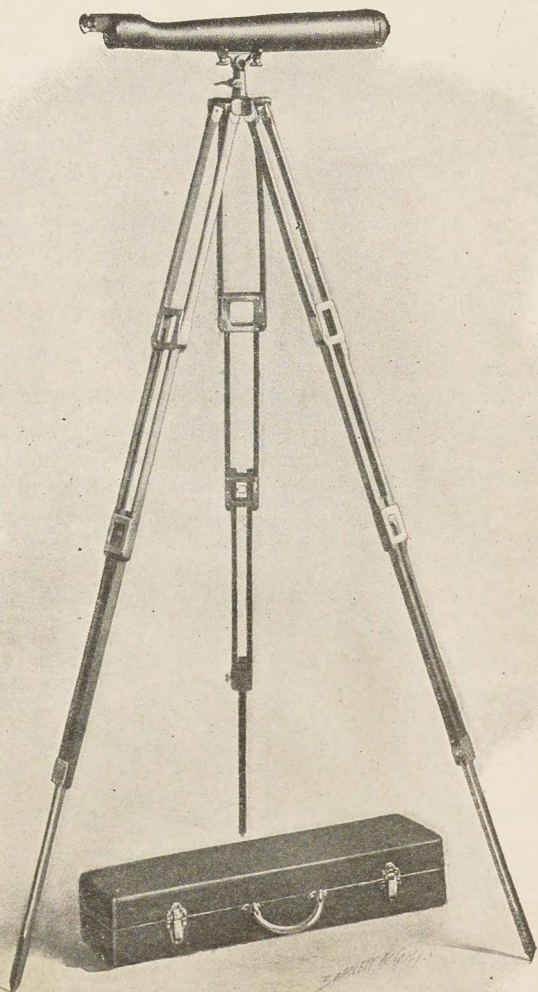
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This **Screw Driver** is made with a chuck to hold the blade firmly into a split socket when in use. To carry in the pocket, on key-ring or watch chain, the blade may be removed by slightly loosening the chuck, then reversed and telescoped thru the socket nearly full length, and held safely by tightening the chuck.

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Optometrical Society of the City of New York

The May meeting of the Optometrical Society of the City of New York was held in the Waldorf Astoria Hotel on Wednesday evening, the 13th. The meeting was called to order by President Fisher. The secretary read the minutes of the previous meeting which were accepted as read.

The following gentlemen were elected members: Paul Schickler and Max Wolff, of New York City.

Applications for membership were received from the following parties: Harrie Mason Wright, Paterson, N. J., and Jacob Pohs, Alphonse Laber, John Schoelch and Mr. Epstein, New York City.

The secretary read a letter from the American Association of Opticians in reference to affiliation of individual members with that association. After some discussion, pro and con, it was decided that the society as a whole, at some future date, would take into consideration the question of affiliating with same.

Mr. Dilworth, as secretary of the Optical Society of the State of New York, made a motion that the secretary suggest to the chairman of the legislative committee that New York City be selected as the next meeting place for the State convention. The motion was seconded by Mr. Ryer and carried. Mr. Dilworth also moved that a committee of arrangements of five be appointed for this occasion, and the president appointed the following gentlemen as members of the committee: P. A. Dilworth, chairman; Albert Cohen, E. LeRoy Ryer, A. J. Cross, Robert Levin.

It was moved and seconded that a letter of thanks be sent to Captain Costello for his zealous and untiring labor toward the advancement of the optometry bill.

Mr. Frankel moved that the secretary be instructed to send a letter of thanks to H. W. Schmall, of 832 Amsterdam Avenue, for his help in the advancement of the optometry bill.

Mr. Levin made a motion that the office of financial secretary be abolished after January 1st. The motion was seconded by Mr. Dilworth and carried.

Mr. Dilworth moved that a standing vote of thanks be given to Mr. Levin for his work as financial secretary up to date. Seconded by Mr. Ryer and carried. It was also moved and carried that Mr. Ryer be appointed delegate to represent this society at the national convention, which will be held in Philadelphia, on August 10th.

Mr. Swiss moved that a letter of thanks be tendered to Assemblymen A. J. Levy and James Oliver for their support of the optometry bill, and Mr. Ryer proposed that a letter of thanks be sent to all the assemblymen and senators of Greater New York who supported our bill. Seconded by Mr. Levin and carried.

After the business session Prof. Lockwood gave an instructive lecture.

Rochester Optometrical Society

Last month the members of the Rochester Optometrical Society celebrated their eleventh anniversary by a banquet. Following the banquet the regular business session was held and the following officers were elected for the ensuing year: President, E. J. Benedict; vice-president, H. C. Mielke; secretary, E. H. Silver; treasurer, Milton Goodman; executive committee: H. M. Bestor, B. B. Clark, W. J. Morse.

The following board of censors was nominated: W. W. Bissell, E. E. Arrington, George R. Bausch.

The meeting was an enthusiastic one. A short talk on "Optical Education" was given by Dr. Howard D. Minchin, of the University of Rochester, and one on the "Future of Optometry," by E. E. Arrington. Much interest was expressed regarding Governor Hughes' action toward the optometry bill which is now awaiting his signature.

The past year has been a very successful one for the society, as it has demonstrated itself to be a successful educational and business organization. The society is planning an educational movement which promises to be very effective.

New Jersey Annual Meeting

The annual meeting and banquet of the New Jersey Optical Society was held at the Continental Hotel, Newark, on the evening of May 12th, with an attendance of about thirty-five members. After the approval of the minutes, President Smith reviewed the work of the year and stated that



President Jos. J. Hartman

sixteen new members had been enrolled and six dropped. He urged the importance of securing legislation and advised that serious consideration be given this subject and also the advantages of a uniform price-list.

Chairman Jackson reported on the work of the executive committee for the year, and the secretary reported a

balance of \$158.98 in the treasury.

The chairman of the legislative committee reported that they had carefully watched all the measures that had been offered in the State legislature and that none threatened the interests of the optician. No attempt had been made at this session to pass an optometry bill, as it was thought best to await the fate of the great struggle in New York State before making another attempt in New Jersey.

The following names, approved by the membership committee, were voted on and elected to membership: F. W. Hunt, Trenton; H. Benton Young, Mount Holly; Jos. H. Shute, Glassboro; T. L. Bear, Camden; L. J. Holt, Atlantic City; J. C. Demmert, Camden; George Weber, Newark, and Dr. J. J. DeGruen, Nutley. The following also applied and their names were referred to the membership committee: John W. Wirth, Roselle Park; Lucien W. Betts, Atlantic City, and Harry W. Gage, Nutley.

The invitation of the Philadelphia committee on arrangements for the coming convention of the American Association was then considered and it was decided to hold a special meeting of the society at 3 P.M. Monday, August 10th, at Musical Fund Hall, Philadelphia.

A special committee, consisting of Messrs. Jackson, Leaming, Stiles, Hilborn and Rochat were named to consider the advisability of changing the name of the society and directed to report at the next meeting.

The question of trying to have an optometry bill enacted by the State legislature was then dis-

cussed and it was decided to start a fund for this purpose at once and that an appeal be made to the members to contribute.

On motion of Chairman Jackson, of the executive committee, a vote of thanks was passed for the support given to the work of the society during the year by THE KEYSTONE, *Optical Review* and *Optical Journal*.

The election of officers for the ensuing year was then held and resulted in the unanimous choice of the following: President, Jos. J. Hartman; vice-president, L. A. Rochat; secretary, J. B. Bergen; treasurer, F. C. Leaming; executive committee, E. D. Jackson, L. B. Hilborn, F. H. Hewlett, H. H. Stiles and W. H. Podesta.

A vote of thanks was given retiring President Smith and the executive committee for the faithful service they had rendered, and the meeting adjourned to the dining room.

It was about 10 o'clock when the members and guests sat down and for three hours all enjoyed a nice repast and a number of short and timely addresses. The newly-elected president, Jos. J. Hartman, who has long served the society as secretary and vice-president, presided. President Smith spoke on "Commercialism versus Professionism," L. A. Rochat spoke on "Optical Legislation," L. B. Hilborn's topic was "Optometry Up to Date," and general addresses were made by H. H. Stiles, E. D. Jackson, A. Wenzell, Wm. J. Benn, E. Leroy Ryer, R. M. Lockwood and P. A. Dilworth.

Missouri Association of Opticians

ED. KEYSTONE:—From the goodly reports we are getting, the indications are that the eighth annual meeting of the Missouri Association of Opticians, which will be held in Kansas City, June 9th, 10th and 11th, in joint convention with their neighbors, the Kansas Association of Opticians, will be the largest yet held.

A splendid souvenir programme is being prepared and it is intended that every optometrist in the State shall get a copy. There will be much of it that is very interesting and instructive and some quite entertaining.

One thing which will be of great interest to every optometrist is the planning and action to be taken in regard to the future protection and advancement of optometry in this State.

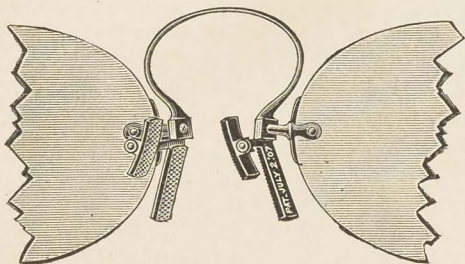
The Missouri Association is growing in strength through a realization of the necessity of organization and co-operation, and many new names are being added to the membership. The accomplishment of many good things in the interest of the optical profession in Missouri are looked for in the near future.

G. E. READ, Secretary.

The Arkansas State Optical Society

The Arkansas State Optical Society will meet at Marion Hotel, Little Rock, Ark., on Tuesday, June 16th, at 9 o'clock A.M. All opticians of the State are cordially invited to be present and to become members of the organization. All of them should realize that the only safeguard against being legislated out of the optical business is a strong State organization which will be in a position to combat any efforts that may be made to pass laws inimical to their interests. It is not unlikely that the small membership at this time might be worth hundreds of dollars at a later date in protecting the business of the members.

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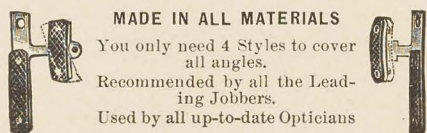


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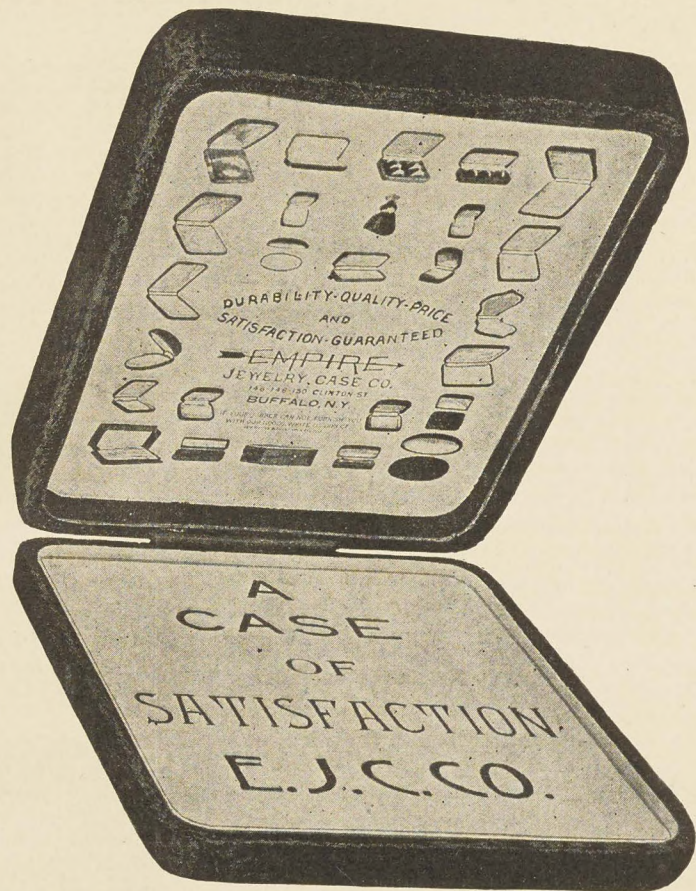
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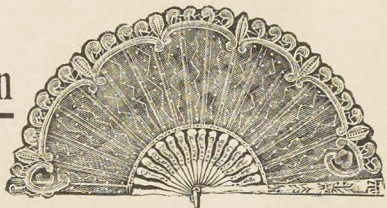
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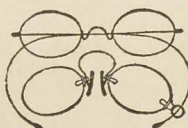


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Optical Notes

* The following successfully passed the examination for membership in the Wisconsin Association of Optometrists: O. A. Olsen, Milwaukee; J. H. Schueller, La Crosse, and Paul F. Lass, Sauk City.

* F. H. Orr, business manager of the Dupaul Young Optical Co., Southbridge, Mass., is mourning the loss of his mother, who died recently at her home in Rochester, N. H., at the advanced age of eighty-seven years.

* The first arrest under the optometry law in Nebraska was made at Trenton, that State, in April. M. I. Strauss, a traveling optician, after having been notified, refused to comply with the law. He was consequently arrested, found guilty and fined \$25 and costs.

* Warner & Swasey Co., Cleveland, Ohio, were recently awarded by the United States government the contract for making the Swasey musket sight which will be used on the new rifles. This sight, which is considered a notable improvement, is the invention of the Warner & Swasey Co.

* F. G. Burgess, the popular traveling salesman of the Dupaul Young Optical Co., Southbridge, Mass., is now on a trip among the Western trade. Mr. Burgess is an accomplished salesman, whose thorough mastery of his specialty and agreeable personality make him at all times a welcome visitor among opticians.

* E. Kirstein Sons Co., Rochester, N. Y., are well pleased with the trade favor extended the "Handy Shur-On" eyeglasses. A valuable feature of these glasses is the interchangeable guards. They are provided with guards to fit different noses in both the rocking and rigid style. The company is now at work on a new catalogue showing the various styles of these eyeglasses.

* A. J. Shellman, the well-known optician of Grand Rapids, Mich., recently sold his retail optical business in that city to A. N. Sumerlin. Mr. Shellman who was successful in building up a large business will devote his entire attention to his mail-order and wholesale business. His son, E. A. Shellman, is interested with him in the latter and the title of the firm is Grand Rapids Wholesale Opticians.

* The Michigan Optical Co., Detroit, Mich., have begun the erection of a large addition to their plant. The extension will be 30 by 77 feet and three stories in height. It will be of reinforced concrete and pressed brick construction with large paneled glass windows of the new patent wired variety. The growth in the demand for this company's product has necessitated the new addition to the plant which will very materially increase their productive facilities.

* O. H. Waelde, optician, Newburgh, N. Y., and Mrs. Waelde visited Philadelphia last month for the purpose of attending the graduation exercises of the Women's Medical College, from which their daughter, Miss Nellie E. Waelde, has just graduated. Miss Waelde was one of the most distinguished pupils of the college and graduated with high honors. Her present purpose is to specialize in the eye, ear, nose and throat and to practice her profession in connection with her father in Newburgh, N. Y.

* The Indianapolis Optical Company, of Indianapolis, Ind., has filed articles of incorporation at the office of the secretary of State. The company is capitalized at \$8000. The directors are: Charles W. Conner, C. S. Lockwood, O. D. Conner and E. R. Lockwood. All of the directors are Indianapolis men. C. W. Conner is a well-known optician. The company proposes to manufacture a new style of invisible bifocal lens. The place of business will be in the new Odd Fellows' Building with rooms on the Pennsylvania Street side of the building. C. W. Conner will also remove his optical rooms from North Meridian Street to the same quarters. The rooms at 13 North Meridian Street, which Mr. Conner will vacate June 1st, have been known as optical rooms for the past thirty years. Mr. Conner has occupied them for seven years and for twenty odd years previous James N. Mayhew, one of the pioneer opticians of Indianapolis, did business in them.

* Diamonds, gold and optical goods were among the valuables taken by the robbers who attacked the express car on the Pan Handle line, near Pittsburg, several weeks ago. After the robbery a search was made for the booty. The first instalment of the stolen goods unearthed was a package containing nosepieces for eyeglasses. The package contained a consignment of the well-known mountings which had been shipped by the Rodney Pierce Optical Co., of Pittsburg, to F. P. Barr, Lancaster, Ohio. These mountings will have a new value as souvenirs of the startling event.

* Bausch & Lomb Optical Co., Rochester, N. Y., have entered a vigorous advertising campaign of their field and marine glasses. They will furnish free of charge a quantity of advertising matter and illustrations to the trade for the purpose of furthering the sale of these goods. As a knowledge of these glasses and their peculiar merits is necessary to the intelligent sale of them, it would be well for those of the trade who handle these goods to procure from the company a copy of their booklet entitled "Optics of the Field Glass," which fully explains the principle and mechanical advantages of the glasses.

* Dr. J. B. McFatrigh, president of the Northern Illinois College of Ophthalmology and Otology, was given a rousing send-off both in Chicago and New York prior to his departure for Europe, where he will spend several months touring the continent in his automobile. The doctor was accompanied by his wife and daughter and will be joined in Paris by his married daughter who has been abroad for some time past. A dinner was given in Dr. McFatrigh's honor on the evening of May 8th by the board of directors and house committee of the Illinois Athletic Club and the board of directors of the Forward Movement that was largely attended and proved to be a most enjoyable affair. An elaborate menu was served and a number of the most influential men of Chicago made addresses expressing the high regard in which the doctor was held and wishing him a pleasant journey and safe return. One of the notable events of the occasion was tributes paid by the presence and address of a Catholic priest in charge of the stock yards district, whose friendship for the doctor is not deterred by the fact that he is of a different religious faith and one of the most conspicuous members of the Masonic fraternity in Illinois. One of the bright lights composed a song for the occasion, which was printed and sung with great gusto. Two of the half dozen verses ran as follows:

There is a doctor in our town, in our town,
And he's a man of great renown, great renown.
If there's anything you haven't seen
Just try a drop of his Murine.

He is a comrade staunch and true, staunch and true,
The squarest fellow we ever knew, ever knew.
We wish you good luck from the start;
May the birds you meet not all be larks.

Indiana Board of Optometry

Governor Hanly reappointed Francis M. Murphy, of Brazil, and Milton T. Jay, of Portland, members of the State board of registration and examination in optometry. On May 6th the board met in the governor's office and elected officers for the ensuing year as follows: President, Milton T. Jay, Portland; treasurer, Francis M. Murphy, Brazil; secretary, Arthur N. Baker, Logansport. The first two gentlemen succeeded themselves in office and Mr. Baker succeeded John H. Ellis, of South Bend.

The regular examination was conducted by the board in Indianapolis, May 4th and 5th. Written work occupied the first day and clinical work the second day. This latter consisted of actual experience in testing eyes.

Those who took the examinations were: H. C. Melcher, Indianapolis; Jacob Fischer, Union City; George Sarratt, Anderson; George Paul, South Bend; John N. Haggard, Sedalia; George F. Stone, Knox; Zella Johnson, Connersville; Martin Neds, Elkhart; James W. Wolfe, Gibson Township, Washington County; Guy Michaels, Noblesville; Alonzo Kelble, Columbus; Charles A. Porter, Centerville; Clara M. Zweltzer, Richmond; Arza L. Bennett, Noblesville; Clyde F. Morgan, Lafayette; Daniel E. Osborne, Windfall; Claud R. Stoops, Nappanee; John F. Hornberger, Law-

renceberg; Melville A. Hutchison, Ligonier; Charles Werneke, Anderson; Arthur Harriott, Muncie; George N. Phares, Martinsville; Harry B. Showalter, Middleburg; Thomas F. Baber, Marion; Harry Werneke, Greencastle.

The secretary of the board expected to be ready to announce the result of the examinations in about two weeks.

Two spectacle vendors were recently arrested in Plainfield, Ind., for violating the optometry law. Through the efforts of S. B. Merrick, jeweler and optician, of Plainfield, the men were followed and one of them caught in the act. They gave the names of H. O. Conner and J. H. Cain and their place of business as 114 North Illinois Street, Indianapolis. They paid the fine and left town. That the men were not the parties whom they represented themselves to be is an established fact.

Ohio Optical Association

It is opportune to again remind the optometrists of Ohio that the sixth annual convention of the State society will be held at Cedar Point, Sandusky, on June 23rd, 24th and 25th.

The committee announces that this will be the largest, best and most interesting meeting in the history of the organization. The exhibits which have proven to be one of the leading features gives promise of being larger and better than ever.

The programme committee has reported that it has secured the usual number of papers upon the various subjects pertaining to the practice of optometry. It also announces as special attraction that the services of Prof. Charles Schead of the Ohio State University of Columbus, Nelson F. Standard, G. W. Gracy, M. D.; J. C. Elberhardt and others to be announced later have been secured.

The banquet will be complimentary. Also dance and other entertaining features will be given by the Cedar Point Company. The special features are free to members, their ladies, families and friends.

Optical Specialists Association of America

The annual meeting of the above organization will be held at the Hotel Savery, Des Moines, Iowa, on Thursday, June 25th, the meeting to be called to order at 9 A.M. sharp. An attractive programme has been prepared for the occasion. Among the papers which will be read are the following: "The Progress of Optical Science" by Geo. Mayerle, of San Francisco, Cal.; "Our Profession" by R. H. Small, North Adams, Mass.; "The Ethics of our Profession" by W. A. Brooks, of Prescott, Iowa; "Optometrist and Physician" by W. W. Nagarell, of Council Bluffs, Iowa; and a Workshop Demonstration" by B. H. Glenn, Emmetsburg, Iowa. An address will also be made by Dr. F. C. LaGrange. All optometrist who make optical work a specialty are invited to attend to attend the meeting.

Minnesota Association of Optometrists

A meeting of the above association in connection with the Retail Jewelers' Association will be held at the West Hotel, Minneapolis, on July 6th, 7th and 8th. The programme of the entertainment arranged for the occasion is quite tempting and will include a trip from Minneapolis to Stillwater by trolley or steam car, a visit to the State prison and a return trip from Stillwater to St. Paul by boat by way of St. Croix Lake and River and the Mississippi River. This will be a most delightful trip, as the scenery in both rivers is noted for its beauty and the companionship and amusements will be of the pleasantest kind. Rooms will be secured at the headquarters in the West Hotel for the display of the wares of manufacturers and jobbers, a feature of the meeting which will prove of great interest and value. At the meeting of the board of directors on May 19th, at which the above dates were fixed upon, it was suggested that in 1909 there be a joint meeting of the jewelers and opticians of the entire Northwest section, including North Dakota, South Dakota, Minnesota, Iowa and Wisconsin. The matter was held over for further consideration.

New York State Now Has an Optometry Law

After a prolonged struggle for legal recognition of their profession, the optometrists of New York State have at last achieved a signal triumph. The bill to regulate the practice of optometry in that State, which passed the senate and assembly some weeks ago, was signed by Governor Hughes on May 21st, and is now the law of the State.

The following interesting memorandum was filed by the governor with the bill:

"The bill provides for the regulation of the practice of optometry as therein defined. The legislature last year passed a measure for the same purpose, which was disapproved on the ground that it failed to provide for adequate supervision by the board of regents in accordance with the policy of the State. The defects then pointed out have been remedied in the present bill. Objections have been urged to giving legal recognition to the practice in question; but the fact remains that the practice exists and will continue, and unquestionably it forms a proper subject for regulation. I therefore approve the bill."

The news of this victory will be received with gratification by every optometrist in the country, as the New York law will smooth the way for similar legislation in the other States. In our last issue we extended our congratulations to the opticians who labored so hard to secure this legislation, and now that the governor has placed his signature to the measure, we renew these congratulations. Chief among these tireless workers was Edward E. Arrington, of Rochester, president of the Optical Society of the State of New York, and now that the victory has been won, the following excellent advice to his brother optometrists of the Empire State will be appreciated:



Edward E. Arrington

Words of caution to optometrists of New York State

WORDS OF CAUTION TO OPTOMETRISTS OF NEW YORK STATE

An optometry law is now upon the statute books of the State of New York. It now remains our duty more than ever before to prove ourselves worthy of the law. We owe this to the public, and particularly to Governor Hughes and all senators and assemblymen who by their vote made it possible.

All differences with those who have opposed us must now cease as we are all in the profession for one purpose, and that is the betterment of the vision of the public.

Renewed interest in our State society should now be shown, as our success in the future, to a great extent, will be due to organization and education. Separately, these are of no particular value, but together will nail the profession of optometry to the masthead with the great sciences of the world.

The date, time and place for holding our next State convention will soon be decided upon, and it is hoped there will be a large attendance, as we have many problems to decide as to our future.

The last State convention decided upon the names of Prentice, Bissell Watts, Robbins and Williams for State board of examiners. The five other names mentioned at that time were added because it was necessary to name ten; but the other five were only mentioned to meet the requirements of wording in last year's bill.

I trust that all will see the necessity for unified action in this matter, as a difference of opinion now would only serve to reflect upon what should be the unanimous judgment of all, as these are the names of men who stand high in their various localities and have done much for the cause of optometry in this State.

Our future greatly depends upon the judgment and fairness of the first board of examiners, and to others who have ambitions in this direction, will simply state that from time to time in the future the board will change, and their opportunities to serve will then undoubtedly receive due consideration.

Very fraternally yours,

EDW. E. ARRINGTON.

The vigorous and intelligent manner in which the struggle for optical legislation in New York State was conducted sets a fine example for the optometrists in other States. Even after the measure had passed the senate and assembly, the optometrists continued their efforts. On the day previous to the date on which the governor signed the measure the following communication was mailed to him by Chas. F. Prentice, which well merits publication, inasmuch as it contains arguments which may be used effectively under similar circumstances by the optometrists in other States:

HON. CHAS. E. HUGHES, Governor of the State of New York.

Your Excellency: In just six minutes I will show that the opposition to this bill is utterly unjustifiable.

To begin with, the members of the Opticians' League have admitted that they neither practice optometry nor profess to understand it. This admission disqualifies them to judge of the necessity or merits of the bill; their opinions being simply nullified by their own admitted total ignorance of the subject.

Lenses for the correction of vision are purely mechanical agents, which are the result of mathematical conception, yet their construction has now been brought to such a well-defined standard that any tyro may employ the necessary tools to make them without having the mathematical knowledge required to define their form. This standardization is the very egg from which the so-called dispensing opticians have been hatched, and they live upon the fruit picked for them from among the patients of those medical men who profess a knowledge of optometry.

I emphasize "profess" because I shall prove that oculists are merely amateur optical practitioners.

Optometry primarily involves a knowledge of mathematical, physical and applied optics, irrespective of any other exalted accomplishments which the practitioner may possess.

Every human eye presents a different phase of refraction, so that the practitioner should unquestionably first have the requisite fundamental optical knowledge, and which can only be vouchsafed when the practitioner has qualified at a school where the subject is properly taught, and as this is not done at any medical college, the physician is as much the amateur as any other practitioner of optometry.

This is putting it mildly, when compared with the opinion expressed by the eminent oculist, Dr. Geo. M. Gould, of Philadelphia, who has recently stated in the *Medical Review* that "the lens treatments by oculists are utter and amazing farces," giving as only one of his reasons the crying "need of a simple school of optometry." There can be no question that the best fitting glasses will be those which have been determined by the most skilled practitioner, whether they be applied to an healthy or even a diseased eye, and the public has the right to demand such skill, irrespective of whether the practitioner is a physician or not. The public should not be compelled to wear a physician's misfit pair of glasses while there are more efficient non-medical practitioners in the field who now seek to raise the standard of optical qualification.

Indeed, physicians should not have any special privileges, or even voice, in this matter, so long as they have not even a simple school of optometry and are not compelled themselves to qualify in optics before the regents of the State. In short, their claim to optometry exceeds their powers.

A diseased eye with properly adapted lenses is in no worse condition than a diseased optically normal eye; both eyes are in an optically normal state, though diseased, but the diseased eye will never show normal keenness of perception which in itself discloses to the practitioner that some diseased condition may exist, even though he may

not have previously detected it by the most careful inspection.

The conscientious optometrist will in such cases always decline to proceed, at least until some kind of medical advice has been sought.

However, the percentage of persons having seriously diseased eyes is almost nil compared with the vast population that is compelled now to wear glasses. It would, therefore, be most illogical and unjust to compel the majority to seek inferior optical service merely to protect the few who may be diseased, yet as above shown, who could not be injured by proper glasses.

Now, a word as to the "deadly drops," medically known as mydriatics, which are claimed by some oculists to be utterly indispensable when it is desired to determine glasses for children.

This I unhesitatingly claim to be the medical sophist's most shallow snare. The physician who is compelled to resort to drops for such purpose is as helpless an optometrist as the child learning to walk by the aid of chairs is a pedestrian. The same tottering indecision is common to the efforts of both, and neither will accomplish his mature task until the handy drops and chairs have been abandoned.

Glasses, determined by the use of a mydriatic, cannot be comfortably worn after the effect of the drops has passed off, so that the glasses must later be empirically modified, through one or more sagacious guesses, before they can be even tolerated. During twenty years I have followed up hundreds of such cases, only to find by the mirror-test that these tolerated glasses were, after all, wrong, and in many instances I have also found a permanently impaired accommodation, due to the drops.

Modern optometry is no longer dependent upon drops and the so-called subjective method, but upon actual and precise objective decision by the operator of the mirror.

The skilled optometrist actually sees, by the mirror and the motion of its image upon the observed ocular fundus, the true kind of optical error he has before him, and records its exact amount, being a principle applied to the total refraction of the observed eye, such as he daily uses in neutralizing lenses to ascertain their power. This method, known as skiametry, is practiced both for far and near visual states upon each of the patient's eyes, and requires exceptional skill, which will, of course, be more readily acquired by the eye habitually trained to optical neutralizing than it will by the eye of a disciple of Hygeia, and for which reason optometrists have undoubtedly been quicker to perceive its superiority.

That some leading medical authorities oppose this bill is either due to their evident ignorance of what is being accomplished by skiametry or to their ethical pledge to support medical weakness, no matter how unjust the cause may be.

In my opinion, it is, therefore, a crime against science, the beacon of truth for these gentlemen to attempt, through sordid sophistry, to stifle the optometry bill for their unworthy and selfish reasons.

Oculists succeeded in pulling the wool over the eyes of Governor Deneen, of Illinois, but failed to do so with Governor Pardee, of California, who, being an oculist himself, recognized the truth and need of reform by signing the optometry bill, an example which has been followed by eleven governors in other States of the union. We plead with Your Excellency to do the same for New York.

Yours respectfully,

CHAS. F. PRENTICE.

We take pleasure in publishing the following general acknowledgement from Mr. Arrington:

"Kindly convey in your columns my sincere appreciation for all the kind messages of congratulation sent me at this time. It fills my heart with great joy to know that what has been brought about for the cause of optometry is so greatly appreciated. Names cannot be mentioned in giving credit, for fear some one would be missed in the roll-call of honor; yet to all our band of faithful workers is due the success of our efforts. To those States which intend in the near future to strive for optometry laws, make this your rule: 'Stick together,' as we have done in New York State, and a similar result will be obtained."

Annual Meeting Alabama Optical Society

The Alabama Optical Society held its third annual meeting in the rooms of the Commercial Club, Montgomery, Ala., on May 12th. The chair was occupied by President E. H. Hobbs, of Selma, who welcomed those in attendance and eulogized the profession of eye refractionist. He referred to the remarkable progress made in the advancement of the science of eye refraction and the large increase in the number of those who had devoted themselves to this specialty. He also extended the thanks of the society to the executive committee for their earnest work in advancing the interests of the association.

Following the president's address the reports of the secretary and treasurer and of the various committees were read and other routine business transacted. The morning session was brought to a conclusion by John L. Moore, of Atlanta, who delivered a most instructive discourse on "Optical Education." He reviewed impressively the progress that had been made in the science and its application in recent years, referring particularly to the improved instruments now at the service of refractionists. He advocated a thorough training for those who contemplated making this their life work, and argued that the colleges and universities of the country should afford facilities for special training in this branch.

The morning session then adjourned and luncheon was partaken of. After luncheon the delegates repaired to his studio where a photograph was taken.

The afternoon session was opened at 4 o'clock with an address by John W. Langley, of Sylacauga, on the "Anatomy of the Eye and the Laws Governing Refraction." Mr. Langley treated the subject in a masterly way, making his remarks very instructive by means of a chart and a skull. He described experiments made by himself on the eyes of sheep and showed by his fine exposition of the subject the deep study which he gave to it. He was complimented by those present on the valuable character of his address.

W. F. Van Arsdale then read an instructive paper on "Things Optical," devoting considerable attention to the danger that lies in the sale of spectacles by unlicensed fakirs and the necessity for their prompt suppression. He held that there should be some means of passing on the competency of everyone who undertook the responsibility of refracting eyes, and his views received the hearty endorsement of all present.

A very interesting discussion was then started on the question of a minimum price-list, and while the majority of those present favored the adoption of such a list, some questioned its practicability at this time. A committee was appointed to take the entire subject under consideration and report at a future meeting.

The election of officers was then proceeded with and resulted as follows: President, Hardwick Ruth, Montgomery; first vice-president, J. H. Tinder; second vice-president, W. C. Abbott, both of Birmingham; secretary, W. F. Weiss, Montgomery; executive committee: chairman, John W. Langley, Sylacauga; A. N. Maumenee, Mobile; W. F. Van Arsdale, Anniston; board of examiners: chairman, Andrew Brown, Florence; M. E. Butt, Childersburg; H. P. McDonald, Mobile; membership committee: chairman, H. P. Rosenstihl, Union Springs; J. H. Tinder, Birmingham; C. F. Cross, Gadsden; legislative committee: chairman, John W. Langley.

In opening the evening session an interesting letter from George M. Gild, a member of the Tennessee Society, was read. Mr. Gild stated that through legislation 200 "fakirs" had recently been driven from Tennessee, and he very pertinently inquired where they had gone. The opinion of the Alabama body was that if this undesirable class of citizens had wandered into this State they would not remain here a great while without finding that Tennessee had a rival in the ejection process.

W. F. Weiss, chairman of the committee on awards, announced that the prizes for the best addresses of the day had been bestowed as follows: First prize, John W. Langley; second prize, W. F. Van Arsdale; third prize, A. N. Maumenee. The winners of the prizes received the congratulations of the assembly.

A well-written and highly-entertaining paper on tobacco affections of the eye and incipient cataract was read by Hardwick Ruth. This address constituted the last of the day's session, and after a general discussion on "Illustrative Cases," participated in by almost all of those present, the society adjourned.

Michigan Society of Optometrists

A meeting of the above society will be held on July 8th and 9th in Detroit. The principal business of the meeting will be in connection with the proposed introduction in the State legislature of the bill regulating the practice of optometry. The opticians of the State consider that the moment is ripe for such legislation, and the society will use every effort to have the measure pass at the next session.

Oklahoma Optical Society

The annual convention of the above organization which was recently held in the Chamber of Commerce Rooms, Oklahoma City, was very successful, the membership roll showing an increase of forty-seven since the last annual meeting.

The meeting was called to order by President A. Y. Boswell who delivered an address of welcome and reviewed the work of the year. The reports of the officers were presented and approved, showing as they did considerable progress.

The feature of the afternoon session of the first day was an address by Dr. S. W. Lane, president of the Southwestern Optical College, of Kansas City. As usual Dr. Lane's remarks were both interesting and instructive and were highly appreciated by all present. Dr. Lane's enthusiasm in the case of higher optics is well-known and his work for the advancement of the science of refraction has been most fruitful.

The morning session of the second day was opened by Dr. Lane who gave a second talk on the subject of Optical Legislation, being followed by many of the members who expressed their views on the subject. The election of officers was held at this session and resulted as follows:

C. O. Lynch, Chandler, president; W. A. Wright, Shawnee, first vice-president; J. C. Diss, Lawton, second vice-president; S. F. Miller, Tonkawa, treasurer; Willard B. Hale, Weatherford, secretary. Examining board: W. C. Wolfe, Chandler; Chas. H. Jahn, Enid; H. E. Rakeman, Sapulpa. Legislative committee: W. K. Grady, chairman, Stillwater; J. F. Hartwell, Oklahoma City; R. C. Everts, Weatherford; H. M. Mills, Oklahoma City; F. D. Stalford, Frederick. Executive committee: Jas. Mazer, chairman, Mc-

Alester; A. Y. Boswell, Tulsa; W. A. Wright, Shawnee.

The feature of the afternoon session of the second day was an address on "Invisible Bi-focals" by W. G. Riggs, of Kansas City. Mr. Riggs covered the subject thoroughly and his address proved one of the most instructive numbers on the programme.

The prize offered by Dr. S. W. Lane of a life scholarship in the Southwestern Optical College for the best paper on "Fitting Eyeglasses" was won by W. Bourke, of McCloud. The meeting then adjourned to meet next year at McAlester.

A Call to Texas Opticians

ED. KEYSTONE:—Since the passage of the new "Practice of Medicine" law by the last legislature, there has been a continuous war waged by the medical profession against all opticians, notwithstanding the fact that the attorney-general of this State holds that the said law does not affect the optician's business. The specialists, in the treatment of the eyes and fitting glasses, are the ones who are waging this war, and not the general practitioners of medicine. Why, because we interfere with their business. Of course, we do not profess to be doctors, nor do we ever treat the eyes, only fit glasses to eyes, doing so as well if not better and more cheaply than the specialist. I have been given notice that when the year is up in which to qualify under the present law, which expires on July 12th next, that I, as secretary of the Texas Optical Association, will be prosecuted criminally for violating the statute laws of Texas, and mine will be the "test case." If I lose, the opticians all over Texas will have to "furl their tents and steal away from the Lone Star State," for we won't be harbored here. I have decided if the opticians of Texas will back me up and help defray the expense of such procedure, to resist every attack made by these enemies against our business.

It will require the services of competent attorneys, with some of whom I have discussed this already, and the opposition will be well represented. If you are ready and willing to put up your share of the expense, very well and good; then I can resist effectually and feel sure of victory. But if you sit indifferently by and expect me to defray my own expenses, which will make or unmake your business, I mean to turn my assets over to others and leave the State. With your joining support we can put all shoulders to the wheel and turn it to our favor. Will you do your part? Will you bear your part of the expense of litigation? Write me at once, for if we are going to do anything, now is the time to lay our plans, for the time is near at hand and the fight is going to be a long, hard-fought battle. I cannot accomplish anything without your assistance and support. I must know at once, hence this urgent request for prompt reply.

The State Optical Association will meet at Dallas, Thursday and Friday, June 11th and 12th, at Commercial Club Rooms, rate one and one-third fare. It will be advisable for you to be present. With best wishes, I am,

Very truly yours,

I. BLOCK, Secretary.

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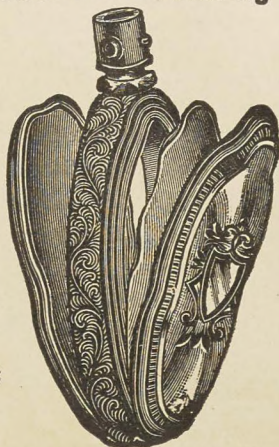
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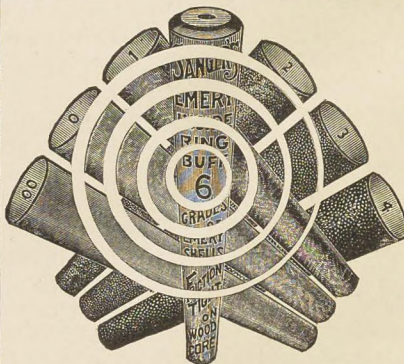


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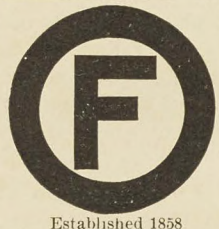
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We have frequently invited our readers to favor us with photographs of their window displays. We will have cuts made at our expense of such displays as are sent us and deemed worthy of publication, and will present the cuts afterwards to those who send us the displays. But the photographs come to us slowly, nevertheless, and the reason seems to be the difficulty of photographing the windows. We therefore reprint the following instructive extracts from an article on the subject of window photography, by A. Allen Campbell, in the current issue of the *Merchants' Record and Show Window*:

Probably the most difficult part of the art to learn is to photograph objects at night without the aid of a flashlight. Under this heading come windows, electrical displays, lightning and other lesser subjects.

In photographing windows the operator cannot meet with failure if he carefully attend to the following instructions. Should any failure occur, it would be from the use of old plates or poor chemicals, not from poor exposure and inefficient operating.

Use Non-Halation Plates

First—The plate used to photograph any object must be of a non-halation kind. It is very necessary to use a dim dark-room light in handling these plates.

Second—Be sure that you keep your plate holder well dusted, as particles of dust get on the plate, and it is impossible to photograph through them, as they leave black spots on your picture.

Third—See that the film side is on top when plate is put in the holder—that is, next to the rubber slide. A good way to find the film side is to moisten your thumb and forefinger and press them tightly against the plate near the edge, so the film side will adhere to the skin. On a fast plate it is very easy to tell without resorting to this method, as the film side is of a very dull matte surface, but on a show plate the film side is bright and it is hard for the inexperienced eye to distinguish the difference.

Non-halation plates will have a film surface that looks to the inexperienced eye almost like the glass side. After the operator places the plates in the holder and carefully dusts them (preferably with a fine camel's hair or sable brush) he is ready to get to work.

In window photography the operator will first see that there is no reflection from lights in windows opposite. The writer would suggest that in trimming a window where mirrors are used the mirror be placed in an angular position; that is, so the camera and outside objects will not be photographed. Should background of windows be mirrors, always place the camera in front of some object in front of these.

Lighting Most Important

This is only a minor point, but a very important one to bear in mind, as it adds greatly to the merits of your photograph.

One of the most important subjects I shall discuss is "Lighting." As an example, we will take a fourteen window, with border lights, using subjects of dark materials. The exposure should be about nine minutes, with a wide open lens. In case the subjects should be composed of light

colors, say whites and light grays, give about six minutes. If the background should be dark and the subjects light, always give exposure for light photographs and *vice versa*. Should the operator have a mixed window, take, if possible, two or three of the 16 c. p. lamps directly in front of the dark subjects and substitute 32 c. p. This will even the exposure and give uniform results. Should there be a chandelier or electroliers in the setting, turn out, if possible, throughout the exposure until about thirty seconds before closing the shutter. That will give the light a good, round, clean-cut effect and do away with halation. Should there be any border lights exposed, draw your shades down just enough to keep them from being taken in the picture. If there is no other means of cutting them off, the writer would suggest that a strip of dark red tissue or wax paper about eight inches wide be pasted on two pieces of heavy twine and stretched across the window in front of the lights, as lights will not photograph through red.

Should the lighting consist of electric or gas arc lights, the front of the light must be covered with a disk of red gelatine, so it will not be photographed, and the exposure shortened to about one-half time given for 16 c. p. border lights. The writer has found very few cases where windows worth photographing are lighted by arc lamps. In case a trimmer should want to photograph a window with such, he must not be disappointed if he meets with failure, as it requires experience for this class of work.

Above all, never use a flashlight in window photography, as, in ninety-nine cases out of one hundred, you would have reflection and blurred results.

Using the Camera

In placing your camera, (1) see that it is perfectly level. A good way to do this is to turn it at right angles and line the back frame with the corner of a building down the street, then swing it the other way and line it with some other perpendicular object. After doing this, swing the camera to the center, and you are ready to focus.

(2) In focusing, have the lens wide open (use no diaphragm) and focus sharp on objects of importance, which usually are in the center of the window.

(3) Put cap on lens, or, if shutter is preferred, set it for time exposure.

(4) Put in plate holder and draw slide.

(5) Keep camera covered with focusing cloth during exposure.

(6) See that there are no papers or white objects on sidewalk.

(7) Have two helpers, one at each end of the window, to keep pedestrians from walking in front of the camera.

(8) Take cap off lens and time exposure.

(9) Should a trolley car or any moving light be passing, take rubber slide and hold it in front of lens without touching it, and take time out. Should a person happen to pass by, use rubber slide in same manner.

(10) After having exposed for the required time, close shutter and replace slide, and you will be ready for developing.

(11) *Never take a photograph on a windy night*, as it means absolute failure.

Developing the Picture

(1) See that no white light gets into the dark-room.

(2) Have your ruby light of a very dense red.

(3) Have your developing tray clean and

about two-thirds full of developer of this formula:

NO. 1

Water, 16 ozs.
Sodium Sulphite, Anhydrous, 1¾ ozs.
Pyrogalllic Acid, 1 oz.

NO. 2

Water, 16 ozs.
Sodium Carbonate, Anhydrous, 2 ozs.

To develop, take of No. 1 a half ounce and of No. 2 a half ounce, of water 8 ounces.

(4) Keep developing tray covered with a sheet of cardboard while plate is in solutions, and, after about twelve minutes of developing have elapsed, hold plate in front of ruby lamp. If your negative is dense enough, it is time to take it out of developer.

(5) Rinse negative well for about one-half minute in a tray of clean water and then put in the fixing solution, to be mixed as per formula:

NO. 1

Water, 96 ozs.
Hyposulphite of Sodium, 2 lbs.
Sodium Sulphite, Anhydrous, 2 ozs.

NO. 2

Water, 32 ozs.
Chromic Alum, 2 ozs.
Sulphuric Acid (C. P.), ¼ oz.

Be sure that the ingredients are thoroughly dissolved, then pour No. 2 into No. 1 slowly, while stirring No. 1 rapidly. This bath remains clear and fixes clean after long continued use, but should be replaced as soon as it becomes exhausted. Never attempt to restore an old bath by adding more hyposulphite. Plates should be left in fixing bath at least double the time it takes the whiteness to disappear. If negatives remain for about thirty minutes in the fixing bath the film will become hardened, which is a great advantage.

(6) Wash plates for about twenty minutes in running water, and then place on a rack to dry.

For half-tone cuts, the gelatine print is undoubtedly the best, as the surface is much cleaner, and therefore the result will be much sharper.

For framing and permanency, platinum or a collodion paper should be used.

If the operator carefully follows the foregoing instructions he should have absolutely no trouble.

Imitation Ground Glass

There is a very simple method of manufacturing an imitation of ground glass, which will be found useful to window trimmers and storekeepers in general.

Dissolve in a little hot water as much Epsom salts as the water will absorb; paint this over the glass while hot, and when dry, the full effect of ground glass is obtained.

The Trained Eye

Steel corporations employ a specialist whose special duty is to watch the color of the flame, and his sight is so trained that at the exact moment when the right heat has been reached he can throw the lever and cast the metal. In the same business sight figures in fixing the quality of the steel bar, avoiding the expense of laboratory testing.

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Balance Staffs, \$1.00 to \$1.25 dozen
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Prices.

Genevas and Mi-Concaves, \$4.00
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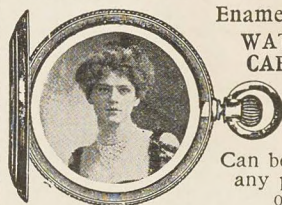
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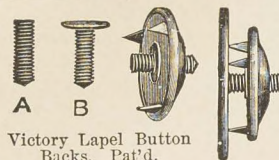
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We give the best course in Watchmaking, Engraving, Jewelry Repairing and Optics,
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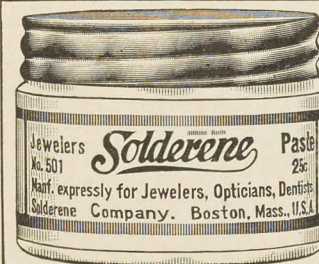


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Always ready to use, and fits perfectly under Screw
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shoulder is worn away, or case is sprung. Also prevents
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Apply to place to be soldered, using iron or flame.
Requires no acids, rosin, paste or other fluxes. Ab-
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High-grade tools { Correct in principle.
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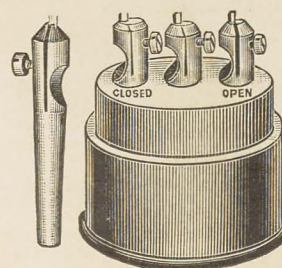
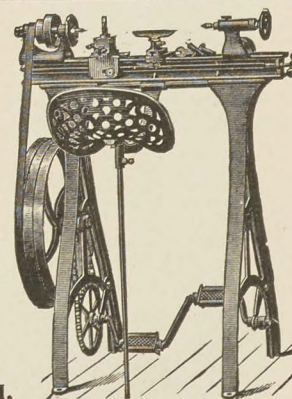
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Send bank check or draft, or postal or express money order for \$1.00 and over, or postage stamps for smaller amounts.

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Under this heading, ONE CENT per word for first twenty-five words. Additional words and advertisements, THREE CENTS per word. No advertisement inserted for less than 25 cents.

SITUATIONS WANTED

Under this heading, ONE CENT per word for first twenty-five words. Additional words and advertisements, THREE CENTS per word. No advertisement inserted for less than 25 cents.

A 1 WATCHMAKER of 23 years' exp.; fine letter and monogram engraver and graduate optician; do not repair clocks or jewelry; Central States; have modern tools and trial case; \$18 to \$20; first-class refs. Address "M 194," care Keystone.

FIRST-CLASS watchmaker, engraver and jeweler; good all-round workman. F. J. Thurman, Cascade Locks, Oregon.

WATCHMAKER and optician; 11 years' exp.; married; not looking for fancy position, but permanent, at living wages. Write for particulars. Address 2327 Main St., Kansas City, Mo.

YOUNG man desires to finish trade under first-class workman; own tools; best refs.; store exp.; can wait on trade. "J 237," care Keystone.

BY young man as assistant watchmaker; age 21; ref. furnished if desired; Wisconsin preferred. Irving Riley, Oconto, Wis.

SITUATION as watchmaker and optician in New England, for July or longer, where first-class work will be appreciated. Address "Watchmaker," Box 31, Waltham, Mass.

WATCHMAKER, jeweler, engraver and graduate optician wants position by July 1st; own tools and trial case; single; good refs. B. R. Busby, Amity, Ark.

WANTED—After June 1st, by young lady, position as engraver and stock clerk. "F 235," care Keystone.

FIRST-CLASS engraver and salesman, of neat appearance, with a fair knowledge of watch work; with fine tools. Address "P 236," care Keystone.

YOUNG man, good watchmaker and salesman; will put in \$1000 cash with services. What can you offer. Best of refs.; reliable. "D 228," care Keystone.

FIRST-CLASS watchmaker; 11 years' exp. on high-grade work, complicated or plain; by second week in July. Good engraver; own tools; consider only good houses. "F 240," care Keystone.

YOUNG lady desires position; good engraver, saleslady and stockkeeper; good refs. "T 229," care Keystone.

AS watchmaker and engraver, by competent workman; ref. from all employers; employed at present; have all tools and lathe; Pennsylvania, Delaware or Maryland preferred. "F 232," care Keystone.

BY first-class watchmaker, jewelry and salesman; young, single and good ref.; state wages in answer. Box 811, Kent, Ohio.

FIRST-CLASS watchmaker, good engraver; understands railroad work thoroughly; no bad habits; best of refs.; age 35; married; Middle West or West. State salary, also hours. 210 S. Seventh St., Hannibal, Mo.

BY a watchmaker and engraver; wants a steady position; good set of tools and best of ref. Edwin Milberg, St. Croix Falls, Wis.

SITUATIONS WANTED

EXPERIENCED traveling salesman seeks position with A 1 house for southern territory. Personally acquainted with trade in Texas and Oklahoma. If desired, will accept position for part of the year. Watches and diamonds preferred, but general line no objection. Best of bank refs. State salary. Write "S 225," care Keystone.

WATCHMAKER, jeweler and engraver; 4 years' exp.; age 23; single; good appearance and no bad habits. C. W. Ligett, 115 Market St., Fort Scott, Kans.

ADVERTISER, with a clean record and 5 years' exp., desires change. Familiar with printing, engraving and commercial art. At present writing retail and mail-order copy for a leading jewelry store; refs. and reasons for wishing change given in correspondence. Address "M 222," care Keystone.

EXPERIENCED watchmaker, jeweler, engraver and graduate optometrist wants position in city or town August 1st; Iowa preferred; American, single and sober; age 21; full set of tools and can give best of refs. "L 221," care Keystone.

WANTED—By young man, with 3 months' exp., a place to learn the trade and work in store. Bruce Adams, Washburn, N. D.

BY young man with 4 years' exp. as salesman, clock and jewelry repairer; speaks German; ref. furnished. F. E. Rohloff, R. R. 5, Appleton, Wis.

JEWELER and optician; young man, married, no bad habits; best of refs.; 12 years' exp.; own tools; Illinois or Indiana preferred. "D 217," care Keystone.

POSITION wanted by good watchmaker and plain engraver; have had experience as salesman; Northwest preferred. O. J. Tommerasen, 903 Globe, St. Paul, Minn.

FIRST-CLASS watchmaker, engraver and jeweler; used to high-grade work; good refs.; married; age 26; American; 5 years' exp.; sober; Central States; permanent place; \$18; samples; all tools. "Watchmaker," 1349 Marquette Bldg., Chicago, Ill.

POSITION wanted—By graduate optometrist with one year's exp.; could assist in clerking, as I am an experienced clerk. Guy Prescott, Princeton, Minn.

POSITION with some up-to-date house by watchmaker and graduate optician with practical exp. refracting, grinding, edging, mounting, bending, etc.; optics preferred. "G 260," care Keystone.

BY a competent watchmaker, city or country, who understands duplex escapements; reliable English and German refs. furnished. J. H. Krenzien, 679 Sheffield Ave., Chicago.

BY graduate optometrist with optical concern; bookkeeping and stenographic exp. Reliable correspondent; capable of assuming responsibility; refs. furnished. Matilda Beck, 1407 Diversey Boulevard, Chicago, Ill.

WATCHMAKER, optician and plain engraver; have store exp.; no bad habits; West and South preferred. Hans Clare, Amery, Wis.

POSITION wanted by first-class watchmaker and jeweler, also fair engraver, by July 1st; Southwest preferred; age 39; best refs.; 21 years' exp. "S 258," care Keystone.

POSITION as watchmaker in retail jewelry store; am competent to do first-class watch work, also experienced as salesman. Robert A. Emrath, Jefferson, Wis.

YOUNG man, good engraver, salesman and assistant watchmaker, 22 years old, nice appearance, 6 years' exp., wishes position in nice store to finish watch work. "N 255," care Keystone.

BY fine manufacturing jeweler, stone setter and repairer; none but first-class stores need apply; state salary in first reply. "L 139," care Keystone.

WANTED—Position by an exp. graduate optician, having own outfit; capable of taking charge of any optical department. Don English, Box 778, Trenton, N. J.

SITUATION wanted as assistant watchmaker, with chance to complete trade; 4 years' exp. on clocks, watches; some engraving. V. Mastenbrook, Kasson, Minn.

WATCHMAKER, 21 years' exp.; all tools; best refs. G. F. Rawlings, Bloomsburg, Pa.

BY first-class engraver and jewelry repairer of 12 years' practical exp.; die setting, etc.; good refs.; assistant to first watchmaker; own tools. F. J. Hofstetter, 11 Cottage Ave., Hornell, N. Y.

COMPETENT watch and clock repairer of long experience on high-grade work; fine salesman; highest refs. from leading stores, where ability counts. Address W. R. Hinchcliffe, General Delivery, Erie, Pa.

WATCHMAKER, jeweler, wants position in good, live town; North Dakota preferred; no bad habits; best of ref.; year and half exp. Box 661, Devil's Lake, N. D.

YOUNG man; good mounter, fair adjuster, gold worker, refractionist and salesman; wants position under first-class all-around workman; best of ref. "D 247," care Keystone.

SITUATIONS WANTED

ENGRAVER desires position with good jewelry store; all kind of lettering, monogram, etc.; position must be steady if work satisfactory to same; sample furnished on application. Address all correspondence to A. J. Hieman, Jeweler, Barberton, Ohio.

BY watch repairer and jeweler; 16 years' practical exp.; salesman, clean stock-keeper; have tools. C. C. Burgess, Fort Wayne, Ind.

A 1 WATCHMAKER; can prove first-class on railroad watch repairing; prefer with railroad watch inspector; open for position September 1st. Would like to close contract at once. Own tools; age 36; married; prefer Birmingham, Ala., or Atlanta, Ga.; gilt-edge ref. Address "Watchmaker, H 253," care Keystone.

ENGRAVER (married) wants steady position; can do clock and jewelry repairing; willing to learn watch work. E. W. 114 South Seventh St., Vincennes, Ind.

YOUNG man, in Philadelphia, Pa.; exp. watchmaker and engraver; capable of waiting on trade; rapid and accurate on railroad watches; honest, reliable; no bad habits, and gilt-edge refs. "B 246," care Keystone.

YOUNG man, age 24, wants to finish trade under good watchmaker; 2 years' exp.; a registered optometrist in Minnesota; plain engraver; owns small tools and trial case; good ref. L. M. Nelson, 1706 East Twenty-seventh St., Minneapolis, Minn.

BY young man, age 25, a position wanted as an assistant watchmaker; can furnish ref. if desired; will work reasonable. H. B. Trotter, Kellogg, Minn.

PRACTICAL watchmaker and engraver wants permanent position with good retail firm; experienced on high-grade railroad work; capable of taking entire charge; 15 years' exp.; age 34; married; samples of engraving and refs. given; salary, \$30 per week; Northwest preferred. "H. L." care of Lon Williams, jeweler, Wichita, Kans.

FIRST-CLASS watchmaker and jeweler of 15 years' exp. in the jewelry business, wants situation with good house where in time I can work to a better position, and away from the bench; best of refs. given as to honesty, etc.; would prefer the Pacific coast in lower part of California; 40 years of age. "L 251," care Keystone.

SITUATION by first-class watchmaker and jeweler in large store; best of refs. given; 15 years' exp. "L 252," care Keystone.

HELP WANTED

UNDER THIS HEADING THREE CENTS PER WORD

FIRST-CLASS watchmaker and engraver; permanent position; state wages, refs. in first letter. Address. S. Spitz, Santa Fe, N. M.

WANTED—First-class engraver; one who understands teaching and is willing to assist in watch work or learn methods I now use, so as to be able to assist. "P 234," care Keystone.

GOOD jeweler and watchmaker at once; one with long experience preferred. Write, stating experience and salary expected, Stuart G. Watt Drug Co., Sales, N. D.

WANTED—A young man who understands watch repairing, to solicit and collect; one who would purchase an interest in an established business and speak Bohemian preferred. Address "G 241," care Keystone.

GOOD, experienced watchmaker and salesman; one who is fair jewelry repairer; refs. required; state full particulars and wages required in first letter; reply to all. E. H. Schaefer, Beaver Falls, Pa.

FIRST-CLASS watchmaker and engraver; man competent to wait on trade, take in and deliver repair work; permanent position; send sample of engraving; state exp., refs. and salary in first letter. O. A. Hesla Co., Prescott, Ariz.

WANTED—Jeweler, watchmaker and engraver; must furnish tools, material, bench, etc., to take charge of jewelry dept. (Stock \$3500.) Offer 10 per cent. of sales and earnings on bench. Carl Grau, Taylor, Texas.

WATCHMAKER, jeweler and engraver; permanent position and good salary to right man; sample of engraving and ref. required. T. A. James, Petersburg, Va.

WANTED—By August 1st, a man under 40, of good appearance, capable of systematizing and managing a \$100,000 stock; must be good window dresser and ad writer; good position and interest in the business within two years to the right man. L. Lechenger, Houston, Texas.

BY June 15th, expert watchmaker, who is a good engraver; send refs. and sample; permanent position and good salary. L. Lechenger, Houston, Texas.

FIRST-CLASS watchmaker and engraver; strictly honest and reliable; wanted at once; no other need apply; good salary; permanent position. E. H. Goulding's Sons, Alton, Ill.

HELP WANTED

1049

AT ONCE, good, experienced watchmaker; one who is fair engraver and jewelry repairer; letters will not be answered unless refs. from last employer and sample of engraving in first letter; position permanent and reliable; salary, \$20 per week to start; if satisfactory, will raise. Address "R 250," care Keystone.

WANTED—At once, a first-class all-around stone setter; one who can do pearl, gypsy, cramp and cluster work; steady position and good salary to right man; none but first-class setter need apply; give full particulars as to exp., salary desired and ref., etc., in first letter. Carl Entenmann Jewelry Co., 217½ South Spring St., Los Angeles, Cal.

GOOD watchmaker and jeweler, at once. Save time—state ability, salary and refs. first letter. C. H. Allen, Mart, Texas.

WANTED—Watchmaker who engraves; also assistant for clock and jewelry repairing; exp. in retail store; able to wait on trade; permanent place. Frank Haseltine, Kokomo, Ind.

COMPETENT salesman on commission basis; no objection to side lines. Empire Jewelry Case Co., Buffalo, N. Y.

FIRST-CLASS watchmaker and engraver; steady position to right man; state salary, give refs., exp., age in first letter. G. B. Haines, St. Petersburg, Fla.

EXPERIENCED watchmaker and good engraver; \$25 per week; position permanent; age 30 preferred; engraving samples and refs. in first letter. Chas. E. Davis, Great Falls, Mont.

FOR the season on Mackinac Island; hay fever resort; watchmaker, jeweler and engraver; young man; single; state salary; send ref. and sample of engraving. F. D. Lampman, Mackinac Island, Mich.

WANTED

UNDER THIS HEADING THREE CENTS PER WORD

POLISHING motor for 115-volt alternating current. J. R. Sprague, Newport News, Va.

REGULATOR, cheap; state kind and how long used. J. R. Hauschildt, Eskridge, Kans.

WANT to buy jewelry store in central Ohio town; give full particulars first letter. Box 353, Mt. Gilead, Ohio.

TWO flat-top oak watchmakers' benches. Smith Bros., Elyria, Ohio.

WHOLE or half interest in established refracting business, or will take charge of department on commission, by one who is first-class refractionist; thoroughly up to date in every branch; city of not less than 25,000. "B 233," care Keystone.

GOOD location for practical optician and jeweler, in live town of 600; nice business already built up. Address Secretary Commercial Club, Dumont, Iowa.

TRIAL case; give full description and price. E. B. Johnson, General Delivery, Chicago, Ill.

GOOD second-hand Rivett lathe; must be in good condition and cheap. "M 218," care Keystone.

WEBSTER-WHITCOMB, Moseley or Rivett lathe, foot-wheel, countershaft and staking tool; good condition. Wm. Osten, 530 North Main, Bloomington, Ill.

PARTNER or buyer for established manufacturing jewelry business; one of most prosperous and promising cities in United States; population, 105,000; fully equipped power plant; good lease, present building; best reasons. "R 216," care Keystone.

OPHTHALMOMETER, luminous mires; also Geneva ophthalmoscope and retinoscope and table for sale, cheap. "D 176," care Keystone.

PARTNER—Prefer practical watchmaker, with \$1000 to \$2000. 205 N. Union Ave., Pueblo, Colo.

OPHTHALMOMETER; must be cheap. Byron J. Churchill, Oneida, N. Y.

TO buy half or entire interest in established jewelry store, from \$1500 to \$2000, by young man of some experience; preferably in South or Southwest. "M 213," care Keystone.

FOR SALE

UNDER THIS HEADING THREE CENTS PER WORD

Stores, Stocks and Businesses

WELL established jewelry business; invoice \$3500; stock and fixtures; population, 3000; electric lights, artesian water; fine climate; great sheep and hog country; want to quit business. H. J. Black, San Luis Valley, Monte Vista, Colo.

GOOD set of tools, material and supplies; fine shop, good trade, cheap rent; \$450. Crippled, so can't do work; also general repair shop and sporting goods business at sacrifice. M. N. Wertz, Thomasville, Ga.

(Continued on page 1050)

FOR SALE

Stores, Stocks and Businesses

(Continued from page 1049)

GOOD, paying jewelry, optical and souvenir business in one of the best towns in New Hampshire (in White Mountain district). Town about 4000; large outside trade; stock and fixtures invoice about \$1600; can reduce stock to suit customer; all the repair work one man can do. Frank H. Lougee, Conway, N. H.

JEWELRY business in best mining town in Colorado; established 11 years; central location; stone building; plate-glass front; two large show windows; electric lights; clean stock, fine fixtures; room large enough to rent one side if desired. Reason for selling, health requires removal to lower altitude. Will sell fixtures and entire stock, or retain diamonds, gold watches, chains, and other gold articles, to reduce stock to accommodate purchaser. Best opportunity in the State for a live jeweler and optician. Chas. E. Rose, Telluride, Colo.

JEWELRY and music; central Illinois; best farming and mining; population, 3000; no opposition; invoice \$3500. O. A. Scherer, Toluca, Ill.

IN northern Minnesota; only stock in town of 1800 population; stock invoices \$2500, but can reduce to \$1200; great opportunity. "A 230," care Keystone.

STOCK and fixtures invoiced, January 1st, \$10,748.40; best town in Northwest (South Dakota); sales January 1, 1907, to January 1, 1908, \$14,682.60; expense for same time, including cost of goods and supporting two families, \$9004.30; sales, \$14,682.60; expense, \$9004.30; net profit, \$5678.30. Write to-day; reason for selling, going to larger city and start on bigger scale; made the money right here. Will be for sale January 1, 1909; can reduce to suit you. "C 231," care Keystone.

OLD-ESTABLISHED, good paying jewelry and optical business in western New York town of 5000 inhabitants; county seat; three railroads; center of trade for 30,000; best location in town; clean stock; fine run of work; will sell fair price and easy terms; old age and poor health only reason for selling; must get out. Address "Western New York Jeweler," care Heyman & Kramer, 65 Nassau St., New York City.

UP-TO-DATE jewelry stock, large safe and fixtures; Eastman Kodaks and supplies and racket store on the side; a little of everything, up to hand-painted and Haviland china. A money-maker in southern Illinois county seat town. "B 227," care Keystone.

SMALL jewelry stock and kindred lines, on easy terms if secured. H. Aldred, Grand Marais, Mich.

THE only drug and jewelry store in town of 1000 in northern Illinois; a bargain if taken by July 1st. Address "C 238," care Keystone.

A SURE THING—We have the safest and best of all investment for two or three practical men. For the first time we have decided to retire from the jewelry business; don't have to sell, but both partners have been inside for thirty years and are past 50, and want some out-door life. A watchmaker, a jeweler and engraver and a salesman could make a combination that would be a sure winner; the best stand and most convenient store in the best central Illinois city of 25,000; all up-to-date, clean stock. Largest repair business in town; two watchmakers, an engraver and jeweler and clock man, besides another jeweler, a clerk and the two proprietors, are always busy. The best optical business in the city; railroad inspectors on the largest division of one of the largest systems in the West. We don't want curiosity hunters to write us; we have the value and mean business. Our last December business was the largest we ever had. Our last invoice, including 4500 good accounts, was \$42,000. It will take \$30,000 to handle this proposition. Might take on this \$5000 or \$10,000 in first-class land in West or North. If you want a clean business with an established reputation, not excelled anywhere, this is the best opportunity you have seen. Address us, and we will write particulars if you mean business. "W 214," care Keystone.

UNEXCEPTIONABLE opportunity to secure an old-established jewelry business in a Pacific Northwest seaport of 15,000 inhabitants; splendid location; stock of best quality and up to date, amounts to about \$15,000; cash business in 1907 was \$30,000; watch repairs average \$250 per month, and jewelry manufacturing and repairing about as much; have fine manufacturing jewelry equipment; rent low, and includes furnished flat over store; can reduce to \$8000 or \$10,000, if desired; best town of its size on the coast. Only those in a position to handle a proposition of this size need investigate. For further details, address "S 239," care Keystone.

NICE little jewelry store, about \$2700; 9000 population; factory town; going out of business. "K 254," care Keystone.

JEWELRY department of drug store; owner not a bench man; invoice about \$1500; best location. Box 486, La Junta, Colo.

FOR SALE

Stores, Stocks and Businesses

FOR sale in good location; town of 800; stock and fixtures about \$650; about \$100 of material thrown in for good measure. If you are looking for a good thing, write me. No time for idlers. F. A. Furman, River-ton, Iowa.

\$600 WILL buy jewelry store. Established 18 years in its present location; in good residence district on the west side, Chicago. The best of reasons for selling. Address "J. A.," 1201 Heyworth Bldg., Chicago, Ill.

PROSPEROUS, well-paying jewelry business; established 17 years, in the best city in the West, with first-class stock of nice, clean goods, mostly diamonds and watches; stock will invoice about \$12,000; fixtures \$1000; store located in the center of the main business streets; a real snap for the right party; poor health the reason for wanting to retire. For full particulars, address Box 1304, Salt Lake City, Utah.

FINE, clean \$3000 stock and fixtures; Illinois; can reduce; good business; work, \$100 monthly; cash sale. "B 226," care Keystone.

PAYING jewelry and musical store in best town of 2500 in South Carolina county seat; invoice can reduce to \$1500; cash receipts last year, \$4600; repairs cover all expenses. Reason for selling, going back to Europe. "F 223," care Keystone.

GOOD, paying jewelry business; good town of 1000; stock and fixtures about \$1500; no opposition; store and residence built together; rent, \$15 per month; 50 miles from Cincinnati, Ohio. "M 259," care Keystone.

GOOD jewelry stock, fixtures, etc.; located in La Harpe, Ill.; town of 2000; will invoice about \$2250; object, quit business. Roy Nelson, La Harpe, Ill.

SOUTHERN California town 5000 people; jewelry-optical business, clearing \$40 weekly; sell for invoice, about \$2500; account mining business. Those meaning business, send stamps for particulars. Box 545, Whittier, Cal.

JEWELRY store in Austin, Pa.; sell or rent building and fixtures. Box 696, Austin, Pa.

ENTIRE stock and fixtures of one of the best and oldest jewelry stores in Illinois; population, 12,000; established 32 years; 2 railroads; wish to retire. "T 220," care Keystone.

GOOD paying jewelry store; town 1000 population; it will pay you to investigate this. Address S. L. Hagy, Pataskala, Ohio.

STORE and fixtures to rent; stock for sale; good business, good location, good opportunity. For particulars, write Lockwood & Son, Chariton, Iowa.

CLEAN jewelry stock at right price; one year heat, light and rent donated besides; invoice about \$2000. Elson, Buchanan, Mich.

JEWELRY, drugs and optical business in excellent condition; stock and fixtures invoice at present date \$6053.39; will sell at a discount of 10 per cent. for cash; reason for selling, go to preach the gospel. Address Ludwig Schultz, Appleton City, Mo.

ONLY jewelry store in town of 2000 inhabitants; best reasons for selling; \$4000 will handle the deal; answer at once, as this proposition will not last long. "P 242," care Keystone.

JEWELRY store, located in the grand valley of Colorado; best paying business in the State for the investment; finest fruit, sugar-beet and farming valley in State; invoice about \$6000; can reduce. Care of Edward Lehman Jewelry Co., Denver, Colo.

JEWELRY business in prosperous city of 35,000; New York State; profit in 1907 over \$3000; bench work, \$300 per month; an A 1 business; will sell at invoice, about \$12,000; fixtures invoiced at less than \$300; balance in clean, salable stock; satisfactory reason for selling. "T 215," care Keystone.

OLD-ESTABLISHED jewelry and china business in South Dakota town of 2000 population; invoice \$4000; cash only; good reasons for selling. Address "I 244," care Keystone.

JEWELRY store, located over 16 years on one of the most prominent business streets; will be sold complete and cheap if taken at once; reduce stock to suit buyer; reason for selling is sickness. Inquire at L. Vahl, 667 Third St., Milwaukee, Wis.

BEST paying exclusive jewelry and optical business in northwest Iowa county seat of 3000; best farming, corn belt community; established 12 years; average yearly sales, \$12,000; bench, \$200 per month; stock invoices \$5000 to \$6000; clean and up to date; fixtures new. Health has failed and have got to get outside; no trades; do not answer unless you have the cash and mean business. "P 256," care Keystone.

PAYING jewelry business, 100 miles from Chicago; \$800 cash necessary. "G," 1201 Heyworth Building, Chicago, Ill.

GOOD paying jewelry business in good Missouri county seat town of 1600; all repair work one man can do; the only store in town or county. Reasons for selling, have other business interests. Will sell at invoice. For further particulars, address "N 257," care Keystone.

WATCHMAKER or optician; a good location in lively town; nearly 1200 gold spectacles fitted last year; lots of job work; \$200 takes the place and good-will. Address "M. N.," care Julius King Optical Co., Chicago.

FOR SALE

Stores, Stocks and Businesses

SPLENDIDLY established jewelry store in city of 7000; no local competition; railroad divisions with large shops and yards; good watch inspection; sales 1907, \$15,000; stock and fixtures about \$6000; all expenses low; terms, if necessary, for a part. Health compels leaving store. "S 248," care Keystone.

FIXTURES, delivery by September; modern oak wall cases, cloth-lined; sash on weights; adjustable shelves. Big bargain, quick sale. Information sent by R. Brandt, Athens, Ga.

WELL established optical office, in good-sized city, for sale; good opportunity for right party; good reasons for selling. Address "C 212," care Keystone.

JEWELRY, optical business in county seat of north central Kansas; invoice about \$5700; bargain for quick sale; investigate if you want something good. "V 243," care Keystone.

\$6000 BUYS old-established jewelry and optical business in live manufacturing town of 11,000, with rich agricultural country surrounding it. Near St. Louis; am making money here, and so can you. "W 249," care Keystone.

JEWELRY and optical business within 25 miles of New York City; sales will run over \$4500 and repairs over \$3400 yearly; established 20 years; price, \$6500 cash; if you haven't it, don't bother us, and no less will be considered; will stand fullest investigation; glorious opportunity for some one; poor health only reason for letting it go. Address H. B. Peters & Co., 87 Nassau St., New York City.

AFTER 26 successful years in this town of 5000 population, I wish to sell my entire jewelry stock and fixtures, will invoice \$3500, and retire from business; good southwestern Michigan manufacturing town. cash only. "C 245," care Keystone.

FOR SALE

UNDER THIS HEADING THREE CENTS PER WORD

Miscellaneous Merchandise and Equipment

LATHE, polishing lathe, bench and small tools, cheap. Robert Kelly, Milton Junction, Wis.

GOOD set watchmakers' tools, \$25. "C 224," care Keystone.

MOSLER safe, nearly new. J. Denniston, Dansville, N. Y.

ONE special built Mosler safe, 4000 lbs.; good as new; cost \$250; will take \$125, F. O. B. cars. Two birch, imitation cherry, floor jewelry cases; all plate glass; French legs; patent slide-down and dust-proof doors; best made; cost \$75 each; good as new; will take \$85 for both, F. O. B. cars. Two watch racks; one 36-hook and one 60 hooks; will take \$5 for both. Write quick. All genuine bargains. Address A. R. Grove, Bluffton, Ind.

SET of jewelers' tools and some material. Address Mrs. J. W. Perkins, Russellville, Tenn.

FOR sale, cheap—One combined ophthalmometer and retinoscope, Geneva, including table; cost \$100; good as new. L. L. Hook, Sibley, Iowa.

A FULL collection of KEYSTONE for 10 or 15 years back; highest bidder up to July 25th gets it. Address Rousseau Co., Fall River, Mass.

HANGING wire sign, including wire cable, to hang across street; cost \$35; price, \$10. J. W. Coatsworth & Co., Galena, Ill.

FOR SALE OR EXCHANGE

UNDER THIS HEADING THREE CENTS PER WORD

GOOD location; Swedish jeweler. "C 46," care Keystone.

ONE No. 12 D. roller plate press, with handle bars; regular price, \$150; one No. 3 embossing press; regular price, \$75; both presses Kelton make, used few times; good as new; will sell cash or watches. "B 206," care Keystone.

SOLID gold 14 K. 8-day watch; exchange for phonograph or lens edging machine. W. H. Dietrich, Madison, Wis.

POCKET chronometer; want 10-ft. floor case and trays. Neuenschwander, Payne, Ohio.

ON account of other business, will sell for cash or on time, or will trade for unencumbered town property or small farm, well-established, profitable jewelry business; invoice around \$3000; located in northern Indiana; state full particulars in first letter if you wish to exchange real estate. "G 219," care Keystone.

RESIDENCE property in county seat town in Iowa for jewelry, automobile or what have you? O. W. Sherman, Central City, Ia.

SPECIAL NOTICES

UNDER THIS HEADING THREE CENTS PER WORD

IF you are interested in a thorough optical education, read our advertisement on page 1052 and get our book, "How to Become a Good Optician." South Bend College of Optics.

BALANCE staffs for American watches; hard and true. Best ruby and sapphire jewels. Tarbox & Gordon, Omaha, Nebr.

SPECIAL NOTICES

A LARGE firm of cutters and polishers of diamonds and imitation stones desires to act as buyer (or agent) for a responsible American house. Address "F. L. M., 569," care Rudolf Mosse, Frankfurt-on-the-Main, Germany.

BEWARE of second-hand Clement combined lathe attachments offered for sale; they are old models; they sell them to get our latest. W. D. Clement, Waltham, Mass.

YOUNG man desiring to enter into partnership with moderate capital and to finish trade as expert watchmaker, will find an excellent opportunity. Address Charles Reiss, New Silversmiths' Building, 15-19 Maiden Lane, New York.

DO you want to better your location? I will rent half of my store to exclusive jeweler. The best location in Lansing, the best city in Michigan. Don't answer unless you have good stock or cash to do business. A. H. Towle, Optician, Lansing, Mich.

WANTED—Salesmen to handle postal scales as a side line. Adapted everyday office use; capacity, 8 ounces; handsome article; good commission, and a ready seller. Address "Manufacturers," C. W. Novelty Co., Wallingford, Conn.

FOR RENT—One-half side of store with show window; dimensions of store, 70x22; finest location in best jewelry city in South. Immediate possession and 7 years' lease if desired. Address Renssieg, P. O. Box, New Orleans, La.

MONEY loaned to jewelers in any amount. Strictly confidential. Write for information. Bank refs. The Collateral Loan and Banking Co., 647 Euclid Ave., Cleveland, Ohio.

BUSINESS NOTICES

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NOTICE—I have removed from 727 Sansom St. to 807 Sansom St., Philadelphia, where I will continue to buy all kinds of gold and silver; also refine all kinds of jewelers' waste containing gold or silver. Send by mail or express and receive prompt attention. J. L. Clark; established 1870.

WANTED—Every one desirous of improving themselves in watch work, jewelry work and engraving, to address Bradley Polytechnic Institute, Peoria, Ill., for one of their latest catalogues. A postal card will get it. See ad. on page 909.

YOU are looking for a good, reliable firm to do your watch work. Here is the place: W. K. Sandberg, watchmaker to the trade, 802 Columbus Memorial Building, Chicago.

WE make a specialty of changing old antique watch cases to stem wind. Something that has been refused by others. Have had 40 years' exp., and can guarantee satisfaction. N. J. Felix, 45 Maiden Lane, New York.

BEWARE of second-hand Clement combined lathe attachments offered for sale; they are old models; they sell them to get our latest. W. D. Clement, Waltham, Mass.

WATCH work for the trade. Difficult and complicated watches. Send trial package. Cooper's Material House, 722 Sansom St., Philadelphia.

ELGIN Horological School, the oldest and most practical school for watchmakers. Send for catalogue to Elgin Horological School, Elgin, Ill.

RARE coins wanted.—We pay \$50 for dimes of 1894, S. mint; \$25 for the rare half-dollars of 1853; \$5.75 for the quarters, \$2 for gold dollars, common dates, and from \$1 to \$300 for thousands of other dates. Keep all coined before 1880 and send 25 cents, silver or stamps, for 150-page coin book of over a thousand illustrations, listing all rare coins and stamps and showing prices we pay. Bankers' Coin and Stamp Company, Dept. A, Marietta, Ohio.

SHIP chronometers for sale for watchmakers' use; first-class condition; prices from \$35, \$50, \$75 upwards. Enhaus & Son, 31 John St., New York City.

WANTED—Lathes, etc., to renickel-plate. James Fairchild, Star Works, Carpentersville, Ill.

ONLY \$1; Elgin's or Waltham's stem-winding movements; patent pinions; in first-class condition; 8-size; these movements can be put in 6x12 cases, which will make a swell watch. Send money with order. Broadbent, 4 South Forty-second St., Phila.

LEARN modern methods of watchmaking, engraving and jewelry repairing by our profit-sharing plan. Write for catalogue. Chicago School of Watchmaking, top floor, Rush Temple, Chicago.

DO you need money? If so, send your diamonds and watches to me and get quick and liberal returns; highest cash prices paid for entire jewelry stocks; will send our representative if necessary; business confidential; national bank references H. Schwartz, 903 Heyworth Building, Chicago, Ill.

HIGHEST cash prices paid for watches, diamonds and jewelry; quick and liberal returns; all business confidential; bank references. E. Noel, 552 East Forty-sixth Place, Chicago, Ill.; Telephone Blue, 995.

BUSINESS NOTICES

SEND 25c. for box of Ver Nooy's anti-oxidizer; best made. C. H. Ver Nooy, Watkins, N. Y.

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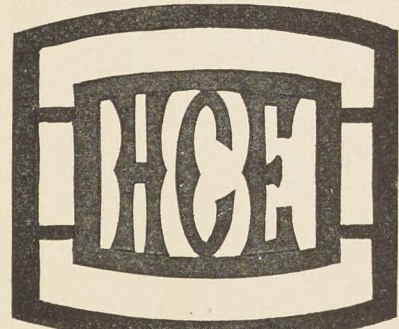
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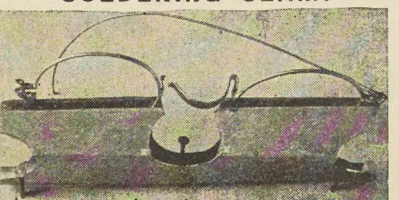
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Index to Advertisers

	Page
Allen & Co., Benj.	946
Alvin Mfg. Co.	935
American Fountain Pen Co.	1010
American School of Engraving	919
American-Swiss Watch Co.	994

Arnstine Bros. Company, The . . . 907
Austin & Stone . . . 958
A & Z Chain Co. . . . 948

Baker & Co., Inc. . . . 974
Ball Watch Co., The Webb C. . . 978
Barnes Co., W. F. & John . . . 1048
Barnhardt, Lon . . . 1051
Bassett Jewelry Co., The . . . 990
Bates & Bacon . . . 1012
Benedict Manufacturing Company, The . . 939
Bigney & Co., S. O. . . . 959
Blackinton Co., W. & S. . . . 921
Boston Optical Company . . . 1040
Bowman Technical School, The Ezra F. . . 1002
Bradley Polytechnic Institute . . . 909
Brainard & Wilson Co., The . . . 934
Braxmar Co., The C. G. . . . 911
Briggs Co., The D. F. . . . 963
Briggs Piano Company . . . 910
Brilliant Gas Lamp Co. . . . 970
Bryant & Co., M. B. . . . 916
Buffalo Dental Manufacturing Co. . . . 908

Cahn Standard Optical Co. . . . 1028
Canadian Horological Institute . . . 895
Carman Art Co. . . . 1048
Carpenter & Wood . . . 1048
Chicago Art Metal Works . . . 1051
Clark & Son, A. N. . . . 970
Cohen, J. J. . . . 916, 1048
Conklin Pen Mfg. Co., The . . . 1010
Covert, A. E. M. . . . 1046
Craft Co., A. P. . . . 968
Crohn, M. . . . 1046
Cross & Beguelin . . . 900
Crossman & Co., Chas. S. . . . 938
Crossman Company . . . 978
Crouch & Fitzgerald . . . 1046
Culman, C. . . . 1048
Cushman, W. F. . . . 1024

Dee & Company, Thomas J. . . . 1000
De Long Furniture Co., T. . . . 912
Dennison Manufacturing Company . . . 1008
DeSelm Watch School, The . . . 978
Detroit Show Case Co. . . . 970
Doran & Sons, James C. . . . 948
Dubois Watch Case Co. . . . 983

Eaton & Glover Co., The . . . Inside back cover
Eden Company, C. H. . . . 920
Eisenstadt Manufacturing Company . . . 957
Elgin Horological School . . . 1048
Elgin National Watch Co. . . . Inside front cover
Ely Eyeglass Co. . . . 1038
Ely, Frank D. . . . 1046
Empire Jewelry Case Co. . . . 1042

Faber Self-Filling Pen Co., Dr. . . . 1010
Farrington Manufacturing Company . . . 1038
Federal Engraving Company . . . 968
Feeley Company, The W. J. . . . 968
Felix, N. J. . . . 914
Fontneau & Cook Co. . . . 976
Foster & Bro. Co., Theodore W. . . . 893
Fox Co., The Gustave . . . 917
Freeman Co., B. S. . . . 948
French Process Jewelry Company . . . 972
Freund & Bro., Henry . . . 938
Friedlander & Bro., Jos. . . . 1036
Fuller & Son Co., Geo. H. . . . 1046

Gebhardt & Co., Benj. . . . 1051
Gebhardt Bros. . . . 1048
Geneva Optical Co., Geneva, N. Y. . . . 1028
Goldsmith Bros. Smelting & Refining Co. . . 897
Goldstein Engraving Co., The . . . 919
Gotthold, Louis . . . 1048
Grand Rapids Show Case Co. . . . 994
Greene Co., Wm. C. . . . 1016
Green Electric Co., The W. . . . 1036

Hagstoz, Ltd., T. B. . . . 914
Hammel, Riglander & Co. . . . 898, 899
Hardinge Bros. . . . 911
Hardy & Co., F. A. . . . 1030, 1032
Haskell, Fred. A. . . . 1048
Hoffman Novelty Co., The . . . 908
Hold-On Clutch Co. . . . 916
Howard Clock Co., E. . . . 970
Howard Watch Company, E. . . . 960, 961
Hurlburt & Sons, H. O. . . . 934

Ingraham Company, The E. . . . 962
International Silver Co. . . . 924
Irons & Russell Co. . . . 917

Jacobson Co., F. H. . . . 1046
Jessen & Rosberg . . . 914
Jewelers' Guild Distributing Co. . . . 1048
Jewelers' School of Engraving, The . . . 918
Jorgeson & Company, F. C. . . . 966

Kandler, Richard O. . . . 918
Kansas City Horological School . . . 1048
Keller & Co., L. H. . . . 894
Keller Jewelry Mfg. Co., The . . . 894
Kelly & Steinman, Inc. . . . 992
Kelso, John . . . 978
Kendrick & Davis . . . 904, 905
Ketcham & McDougall . . . 936
Keystone Publishing Co. 918, 919, 968, 1010, 1030, 1034, 1042

Keystone Watch Case Co., The . . . 937, 984, 985
Killam & Co. . . . 948
Kinney Company, The . . . 974
Kirstein Sons Co., E. . . . 1030
Klein & Bro., F. C. . . . 1048
Klein School of Optics . . . 1051
Kohlbusch, Sr., Herman . . . 918
Kohn & Co., Alois . . . 998
Korones Bros. . . . 906
Kraemer, W. H. . . . 1051
Krementz & Co. . . . 1051
Kroll & Co., H. . . . 998
Kryptok Sales Co. . . . 1026

Landis School of Engraving . . . 978
Landsman, Jos. . . . 1046
Larter & Sons . . . 944
Lelong & Brother, L. . . . 911
Libbey Glass Co., The . . . 940
Lindner & Co. . . . 1046
Liquid Amber . . . 914
Littlefield Silver Co. . . . 1004
Lyons Company, C. D. . . . 974

Macdonald & Co., R. B. . . . 1012
Marlow & Bickmore . . . 1051
Marsh & Co., C. A. . . . 966
Mason, Howard & Co. . . . 942
Matsumoto, Ikko . . . 968
Meriden Britannia Co. . . . 933
Merrill Company, S. K. . . . 1020
Metal Specialties Mfg. Co. . . . 908
Meyrowitz Manufacturing Co., The . . . 1024
Michigan Cut Glass Company The . . . 994
Michigan Show Case Co. . . . 968
Miller, Fuller & Whiting Co. . . . 1016
Moore, Wm. N. . . . 1051
Morgan Jewelry Co., The . . . 978
Morris, Henry G. . . . 970
Moseley Lathe Co., The . . . 912
Munn & Co. . . . 1046

Newark Brush Company . . . 1046
New England Watch Co. . . . 996
New Haven Clock Co., The . . . 992
Newmeyer School of Engraving, The W. L. . . 908
New York Institute of Optometry . . . 1036
New York Standard Watch Co. . . . 986, 987
Niagara Ring Mfg. Co. . . . 1012
Nicholson File Co. . . . 912
Non-Retailing Company, The . . . 895
Northern Illinois College of Ophthalmology and Otology . . . 1024
Norton Company . . . 992
Norton Jewelry Company, C. B. . . . 898
Nye, William F. . . . 915

Oliver Manufacturing Co., W. W., The . . . 898
Oneida Community, Ltd. . . . Outside back cover
Ostby & Barton Co. . . . 958
Page-Davis Company . . . 1051
Fairpoint Corporation, The . . . 936
Paul Manufacturing Co., . . . 1004
Pfeil, Chas. H. . . . 998
Philadelphia College of Horology, The . . . 972, 1046
Philadelphia Optical College, The . . . 1028
Poole Silver Co. . . . 1016
Prentiss Vise Company . . . 911
Purdy Co., The Chas. S. . . . 990

Quincy Show Case Works . . . 1002

Rankin, W. A. . . . 1051
Ranlett & Lowell Co. . . . 908
Redfern, T. C. . . . 1046
Rees Engraving School . . . 910
Reinhard & Patterson . . . 998
Revell & Co., Alexander H. . . . 954
Rivett Lathe Mfg. Co. . . . 910
Robbins Co., Chas. M., The . . . 1020
Robertson Co., The W. L. . . . 1048
Roy Watch Case Company . . . 981
Rubenstein, L. W. . . . 922

Salman & Co., John A. . . . 970
Sandberg, Wilhelm K. . . . 1048
Sanger's Emery Ring Buffs . . . 1046
Schisgall, Theodore . . . 917
Schwab Guard Mfg. Co. . . . 1042
Sercomb Company . . . 917
Sessions Clock Co., The . . . 962
Siegel, Rothschild & Co. . . . 998
Smith Silver Co., E. H. H. . . . 916
Solderene Company . . . 1048
South Bend College of Optics, The . . . 1052
South Bend Watch Company . . . 1002
Spencer Co., E. L. . . . 1020
Spencer Optical Co., The . . . Inside back cover
Standard Optical Company, The . . . 1034
Starrett Co., The L. S. . . . 1040
Steiner, Louis . . . 1042
Stern Bros. . . . 919
Stern Bros. & Co. . . . 964
Stern, M. E. . . . 1034
Stevens & Company, Inc. . . . 1022
Stillwell, L. W. . . . 1051
St. Louis Watchmaking School . . . 906
Sussfeld, Lorsch & Co. . . . 903, 1034, 1038
Sutton, Thos. A. . . . 1048
Swartchild & Company . . . 901
Swigart Co., E. & J. . . . 896

Temple Place Loan Co. . . . 970
Thexton, Chas. W. . . . 1051
Thoma Bros. . . . 902
Tilton Optical Co. . . . 1028
Tyler, E. R. . . . 1042

Ullstrom & Co. . . . 968
Union Show Case Co. . . . 915
Urich, S. . . . 1048
U. S. Electro Chemical Co. . . . 908

Wachter Mfg. Co., The . . . 982
Wadsworth, G. F. . . . 1048
Wadell Show Case and Cabinet Co. . . . 906
Waltham Watch Company . . . 928
Warner & Swasey Co., The . . . 1040
Weaver Manufacturing Company . . . 1046
Webster-Whitcomb Lathes . . . 903
Wells, Chester . . . 1046
Wendell & Co. . . . 913
Western Clock Mfg. Co., The . . . 988
Wheeler & Co., Hayden W. . . . 942

Wightman & Hough Co. . . . 990
Winslow, Krause & Co. . . . 1051
Winter Lumber Company, M. . . . 1004
Wisconsin Institute of Horology . . . 1004
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Wright Pen Co. . . . 1010
Zimmern & Co., Inc., Henry . . . 909

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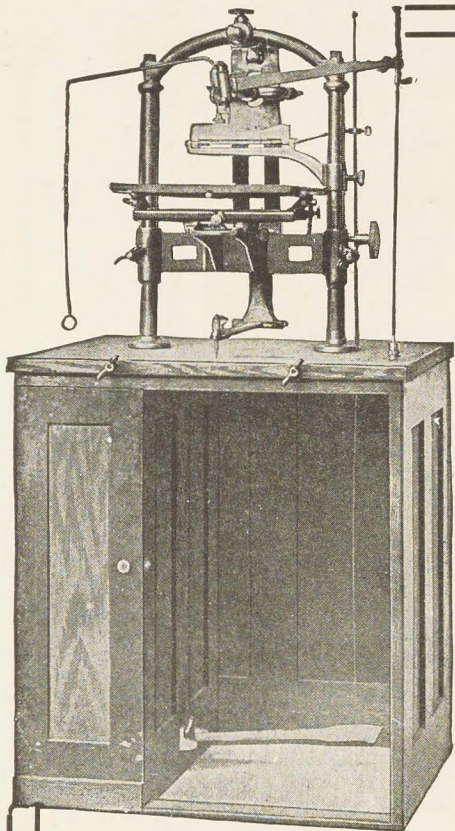
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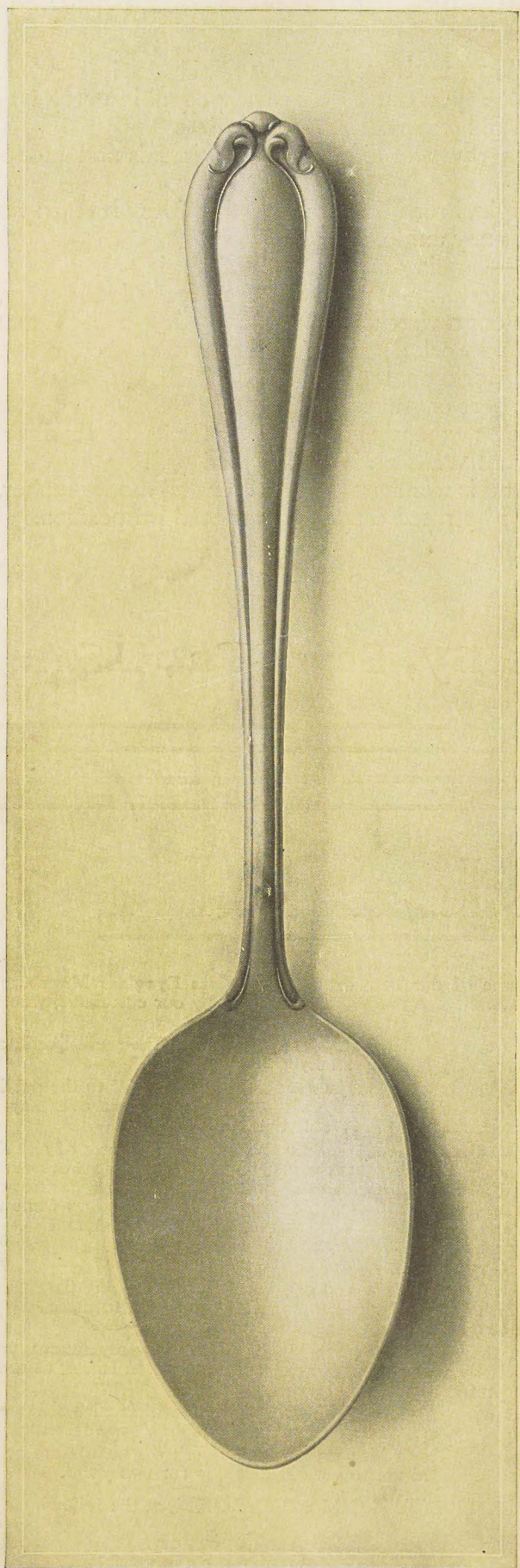
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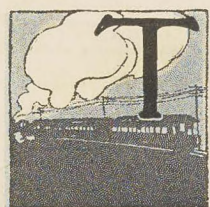
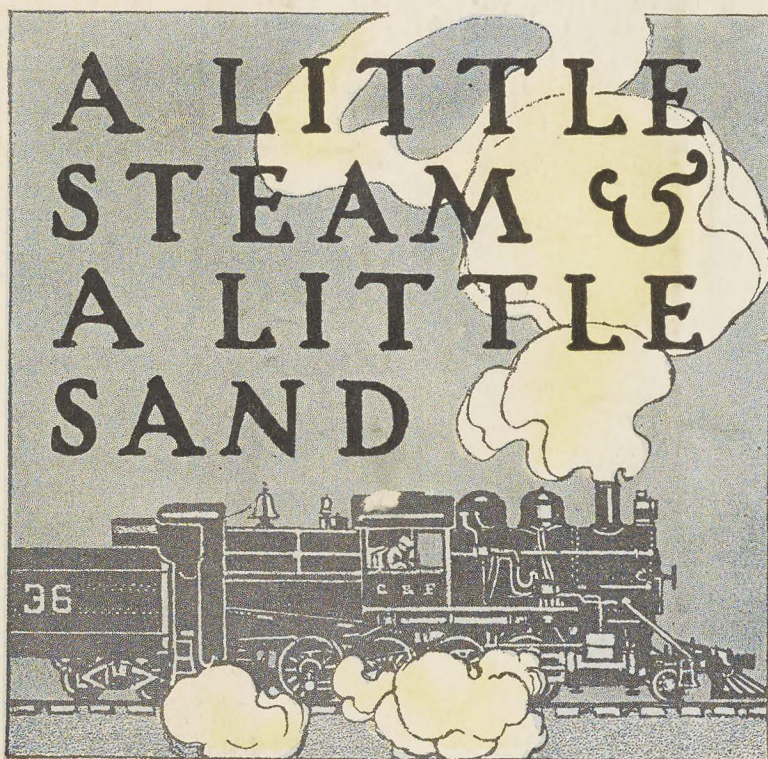
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